UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2022

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM TO**

Commission File Number 001-33672

PALISADE BIO, INC.

(Exact name of Registrant as specified in its Charter)

Delaware	**52-2007292**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
5800 Armada Drive, Suite 2A Carlsbad, California	**92008**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (858) 704-4900

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value	PALI	Nasdaq Capital Market

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☐ NO ☒

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES ☐ NO ☒

Indicate by check mark whether the Registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☒ NO ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). YES ☒ NO ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES ☐ NO ☒

The aggregate market value of the common stock held by non-affiliates of the registrant, based on the closing price of a share of the registrant's common stock on June 30, 2022 as reported by the Nasdaq Capital Market on such date, was approximately $8.1 million. Shares of common stock held by each executive officer and director and by each other person who may be deemed to be an affiliate of the registrant, have been excluded from this computation. The determination of affiliate status for this purpose is not necessarily a conclusive determination for other purposes.

As of March 15, 2023, the registrant had 4,503,977 shares of common stock, $0.01 par value per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement relating to the 2023 Annual Meeting of Stockholders are incorporated herein by reference in Part III of this Annual Report on Form 10-K to the extent stated herein. The proxy statement will be filed with the Securities and Exchange Commission within 120 days of the registrant's fiscal year ended December 31, 2022.

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Cautionary Note Regarding Forward-Looking Statements and Risk Factor Summary

This Annual Report on Form 10-K, including "Management's Discussion and Analysis of Financial Condition and Results of Operations," contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements relate to future events or to our future operating or financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Some of these factors are more fully discussed, as are other factors, in section 1A of this Annual Report on Form 10-K entitled "Risk Factors", and elsewhere herein.

Forward-looking statements may include, but are not limited to, statements about:

- *estimates about the size and growth potential of the markets for our product candidates, and our ability to serve those markets, including any potential revenue generated;*
- *future regulatory, judicial, and legislative changes or developments in the United States ("U.S.") and foreign countries and the impact of these changes;*
- *our ability to build a commercial infrastructure in the U.S. and other markets;*
- *our ability to compete effectively in a competitive industry;*
- *our ability to identify and qualify additional manufacturers to provide API and manufacture drug product;*
- *our ability to enter into commercial supply agreements;*
- *the success of competing technologies that are or may become available;*
- *our ability to attract and retain key scientific or management personnel;*
- *the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing;*
- *our ability to obtain funding for our operations;*
- *our ability to attract collaborators and strategic partnerships; and*
- *the impact of the COVID-19 pandemic on our business, and operations, and supply.*

In some cases, you can identify forward-looking statements by terms such as "may," "will," "intend," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential" and similar expressions intended to identify forward-looking statements. There can be no assurance that any of the events anticipated by forward-looking statements will occur or, if any of them do occur, what impact they will have on our business, results of operations and financial condition. You should not rely on forward-looking statements as predictions of future events. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties, assumptions, and other factors described in Part I, Item 1A Risk Factors and elsewhere in this Annual Report. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties may emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Annual Report. These statements reflect our current views with respect to future events and are based on assumptions and are subject to risks and uncertainties. As such, our actual results may differ significantly from those expressed in any forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement. Except as required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking

statements. You should read this Annual Report on Form 10-K, together with the documents that we have previously filed with the Securities and Exchange Commission ("SEC") completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

RISK FACTOR SUMMARY

We face many risks and uncertainties, as more fully described in this Annual Report on Form 10-K under the heading "Risk Factors." Some of these risks and uncertainties are summarized below. The summary below does not contain all of the information that may be important to you, and you should read this summary together with the more detailed discussion of these risks and uncertainties contained in "Risk Factors.".

- The Company's business depends on the successful clinical development, regulatory approval and commercialization of LB1148.
- There are no U.S. Food and Drug Administration ("FDA") approved therapies for LB1148's lead indication which makes it difficult to predict the timing, costs and regulatory approval path of LB1148.
- The development and commercialization strategy for the Company's lead product candidate LB1148 depends, in part, on published scientific literature and the FDA's prior findings regarding the safety and efficacy of tranexamic acid. If the Company is not able to pursue this strategy, it may be delayed in receiving regulatory approval.
- The Company may find it difficult to enroll patients in its clinical trials, which could delay or prevent it from proceeding with clinical trials of its product candidates.
- Clinical drug development is very expensive, time-consuming, and uncertain.
- The Company expects that its operations and clinical trials will require substantially more capital than it currently has, and the Company cannot guarantee when or if it will be able to secure additional funding.
- The results of previous clinical trials may not be predictive of future results, and the results of the Company's current and planned clinical trials may not satisfy the requirements of the FDA or non-U.S. regulatory authorities.
- The Company's product candidates may cause undesirable side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in post-approval regulatory action.
- The Company may in the future conduct clinical trials for its product candidates outside the United States, and the FDA and applicable foreign regulatory authorities may not accept data from such trials.
- The Company may rely on third-party Contract Research Organizations ("CROs") and other third parties to conduct and oversee its clinical trials. If these third parties do not meet the Company's requirements or otherwise conduct the trials as required, the Company may not be able to satisfy its contractual obligations or obtain regulatory approval for, or commercialize, its product candidates.
- Even if the Company receives marketing approval for LB1148, or any future product candidate, it may not be able to successfully commercialize its product candidates due to unfavorable pricing regulations or third-party coverage and reimbursement policies, which could make it difficult for the Company to sell its product candidates profitably.
- Even if a product candidate obtains regulatory approval, it may fail to achieve the broad degree of physician and patient adoption and use necessary for commercial success.
- The Company's product candidates, if approved, may face significant competition and their failure to compete effectively may prevent them from achieving significant market penetration.
- Any adverse developments related to LB1148 that occur during the clinical trials being conducted by Newsoara Biopharma Co., Ltd. ("Newsoara") could affect the Company's ability to obtain regulatory approval or commercialize LB1148.
- The Company has a very limited operating history and has never generated any revenues from product sales.
- The Company's common stock could be delisted from the Nasdaq Capital Market if the Company is unable to maintain compliance with Nasdaq's continued listing standards.

- If the Company is unable to successfully retain and integrate a new management team, the Company's business could be adversely impacted.
- The Company currently has no products approved for sale, and it may never obtain regulatory approval to commercialize any of its product candidates.
- The Company currently has no marketing capabilities and no sales organization. If the Company is unable to establish sales and marketing capabilities on its own or through third parties, the Company will be unable to successfully commercialize its product candidates, if approved, or generate product revenue.
- The Company's or third party's clinical trials may fail to demonstrate the safety and efficacy of its product candidates, or serious adverse or unacceptable side effects may be identified during their development, which could prevent or delay marketing approval and commercialization, increase the Company's costs or necessitate the abandonment or limitation of the development of the product candidate.
- The Company may expend its limited resources to pursue a particular indication and fail to capitalize on indications that may be more profitable or for which there is a greater likelihood of success.
- The Company has expressed substantial doubt about its ability to continue as a going concern.
- Failure to remediate a material weakness in internal controls over financial reporting could result in material misstatements in the Company's consolidated financial statements.
- The Company may not be able to obtain, maintain or enforce global patent rights or other intellectual property rights that cover its product candidates and technologies that are of sufficient breadth to prevent third parties from competing against the Company.
- The Company may not be able to protect its intellectual property rights throughout the world.
- The Company's board of directors (the "Board") has broad discretion to issue additional securities, which might dilute the net tangible book value per share of the Company's common stock for existing stockholders**.**
- Obtaining and maintaining the Company's patent protection depends on compliance with various procedural, document submission, fee payment, and other requirements imposed by governmental patent agencies, and its patent protection could be reduced or eliminated for non-compliance with these requirements.
- If the Company fails to comply with its obligations under its intellectual property license agreements, it could lose license rights that are important to its business. Additionally, these agreements may be subject to disagreement over contract interpretation, which could narrow the scope of its rights to the relevant intellectual property or technology or increase its financial or other obligations to its licensors.
- The Company will need to raise additional financing in the future to fund its operations, which may not be available to it on favorable terms or at all.
- The COVID-19 pandemic, or a similar pandemic, epidemic, or outbreak of an infectious disease, may materially and adversely affect the Company's business and its financial results and could cause a disruption to the development of the Company's product candidates.
- The Company's Board has broad discretion to issue additional securities, which might dilute the net tangible book value per share of our common stock for existing stockholders.

PART I

As used in this Annual Report on Form 10-K, unless the context indicates or otherwise requires, "Palisade," "Palisade Bio," "the Company," "we," "us," and "our" or similar designations in this report refer to Palisade Bio, Inc., a Delaware Corporation, and its subsidiaries. In addition, references to "Seneca" and "Seneca Biopharma, Inc." are to the Registrant prior to the completion of the Merger. Any reference to "common shares" or "common stock," refers to the Company's $0.01 par value common stock. Any reference to "Series A Preferred Stock" refers to the Company's Series A 4.5% Convertible Preferred Stock. Any reference to "Series B Preferred Stock" refers to the Series B Convertible Preferred Stock

On April 27, 2021, Seneca Biopharma, Inc. ("Seneca") completed its previously announced merger transaction with Leading BioSciences, Inc. ("LBS") in accordance with the terms of the Agreement and Plan of Merger, dated as of December 16, 2020 (the "Merger Agreement"), by and among Seneca, Townsgate Acquisition Sub 1, Inc., a wholly

owned subsidiary of Seneca ("Merger Sub"), and LBS, pursuant to which Merger Sub merged with and into LBS, with LBS surviving as a wholly owned subsidiary of Seneca (the "Merger"). Immediately following the Merger, Seneca changed its name to "Palisade Bio, Inc."

Item 1. Business.

Overview

We are a biopharmaceutical company focused on developing therapeutics that protect the integrity of the intestinal barrier. We utilize over three decades of research and established science that links the role of intestinal barrier biology and human disease to develop novel therapeutics that target and improve the integrity of the intestinal barrier.

Our approach is founded on the discovery that damage to the intestinal epithelial barrier can result in the leakage of digestive enzymes from the gastrointestinal ("GI") tract into the peritoneal cavity that can damage tissues and promote inflammation, causing a broad array of acute and chronic conditions. Our goal is to be an industry leader in developing therapies to prevent or treat conditions resulting from intestinal barrier dysfunction and to improve the lives of patients suffering from such conditions.

Our lead therapeutic candidate, LB1148, is a novel oral liquid formulation of the well-characterized digestive enzyme inhibitor tranexamic acid ("TXA") that is currently being developed for administration prior to surgeries that are at risk of disrupting the intestinal epithelial barrier. By inhibiting the activity of digestive proteases, we believe that LB1148 has the potential to reduce the formation of postoperative adhesions between intra-abdominal tissues and accelerate the time to the return of normal GI function.

We believe that LB1148, if successfully developed and approved, may have the ability to become a suitable treatment option across a broad range of acute and chronic conditions associated with GI barrier dysfunction. Our strategy is to maintain a capital efficient organization focused on pursuing the approval of LB1148 for the reduction of postoperative adhesions following major surgeries. As part of our strategy, we are exploring possible indication expansion, partnering, and out-licensing opportunities and, if advantageous opportunities arise, in-licensing and partnering of other product candidates.

Postoperative Adhesions

Intra-abdominal adhesions are bands of scar tissue that form inside the abdomen. The fibrous bands form between two or more organs and/or surfaces that are not normally connected, causing the surfaces to become bound together. Intra-abdominal adhesions can lead to kinking, twisting, pulling (traction), or compression of the intestines and other organs in the abdomen, causing symptoms and complications, such as pain, bloating, intestinal obstruction or blockage.

Abdominal adhesions are common and often develop after open or laparoscopic abdominal surgery. In surgery with an open approach, the surgeon makes a large incision to open the abdominal cavity, whereas in laparoscopic surgery, the surgeon makes small openings in the abdomen and inserts special tools to view, remove, or repair organs and tissues. Adhesions may arise during these abdominal surgeries by a variety of mechanisms. We believe that injuries resulting from incisions, sutures, surgical manipulation, bleeding, and hypoperfusion can lead to leakage of digestive proteases. Digestive enzymes that escape from the intestine may create proteolytic damage to mesothelial surfaces. The body's response is to generate scar tissue to heal such damage. As the new scar tissue grows it can connect these surfaces with adhesions. It is estimated that postoperative intra-abdominal adhesions may develop in up to 93% of patients undergoing abdominal or pelvic surgery.

Although many patients with intra-abdominal adhesions are asymptomatic, a significant portion of patients will develop "adhesive disease," a symptomatic state inclusive of chronic, highly distressing, and even life-threatening symptoms. Approximately 6% to 10% of these cases require follow-up medical care. Abdominal adhesions are the most common cause of obstruction of the small intestine and can lead to the death of intestinal tissues, peritonitis (an infection of the lining of the abdominal cavity) and, in severe cases, death. In fact, although adhesion related bowel obstruction is the number ten cause of emergent surgery, intestinal obstruction from adhesions is one of the top causes of emergency surgery death in the United States. In women, abdominal adhesions in the abdomen and pelvis can compress, deform, or block parts of the reproductive system and lead to infertility.

Data from preclinical and clinical studies suggest that LB1148 administration may prevent postoperative adhesions in surgical patients. Postoperative adhesions are (i) costly for patients and hospitals; (ii) the number one cause of secondary infertility in women; (iii) the most common cause of bowel obstruction, accounting for up to 75% of cases; and (iv) the tenth most frequent cause of emergency surgeries. They also account for approximately 80% of emergency surgery deaths and more than 400,000 adhesion lysis surgeries annually in the United States.

By preventing or minimizing adhesions in abdominal and pelvic surgery patients, we believe that LB1148 may minimize numerous medical complications and reduce the need for additional surgeries or other treatments, benefiting both patients and providers.

Postoperative Ileus and Return of Bowel Function in Adults

Patients undergoing GI or cardiovascular ("CV") surgery often experience some degree of GI dysfunction, or delayed return of GI function, manifested by a transient cessation of bowel motility, termed postoperative ileus ("POI"). Bowel function typically returns three to five days after abdominal surgery. However, about 8.5% of abdominal surgery patients experience severe POI that delays the return of bowel function by six or more days. Some procedures result in ileus incident rates of over 20%.

Prolonged POI is a serious complication of GI or CV surgery, resulting in increased morbidity, longer hospital stays, and higher costs. Patients experience bloating and major abdominal pain and, with extended lengths of stay in the hospital, may be at increased risk of hospital acquired infections. The mechanism of POI is likely multifactorial, involving digestive proteases, the nervous system (specifically the autonomic and enteric nervous systems), inflammation (mast cell inflammatory process), hormones, neuropeptides, anesthesia, and when used, narcotics.

There are key criteria for patients to meet prior to discharge following major surgery, which may include return of bowel function, infection source control and pain management. Antibiotics and analgesics can greatly help achieve two of these criteria, yet there is still an unmet need for therapeutics to help improve return of GI function.

Preliminary data from preclinical and clinical studies seem to indicate that LB1148 may protect the mucosal barrier and neutralizes digestive enzyme leakage, and promote return of bowel function after surgery.

By potentially accelerating return of bowel function and thereby reducing length of stay in surgical patients, we believe LB1148 may be able to improve patient outcomes, decrease health care costs, and increase operating margins for providers. Furthermore, we believe that these benefits may extend to patients undergoing GI/abdominal and CV surgery, expediting bowel recovery and return to normal feedings to improve long-term outcomes.

LB1148 has been granted Fast Track designation from the FDA for the treatment of postoperative GI dysfunction (which may present as feeding intolerance, ileus, necrotizing enterocolitis ("NEC"), etc.) associated with gut hypoperfusion injury in pediatric patients who have undergone congenital heart disease repair surgery.

Our Lead Product Candidate, LB1148

Our lead therapeutic candidate, LB1148, is a novel oral liquid formulation of the well-characterized digestive enzyme inhibitor, TXA, intended to inhibit digestive enzyme activity and preserve gut integrity during intestinal stress resulting from, among other things, reduced blood flow to the intestine, infections, or due to surgery. Peer reviewed publications of third-party research suggest that digestive enzyme leakage from the GI tract increases the incidence of GI and organ dysfunction following these events.

LB1148 is formulated as an aqueous solution for oral (enteral) administration. In addition to TXA, the patented LB1148 formulation contains polyethylene glycol, carbohydrates, and electrolytes. The components of LB1148 are provided as dry powders for reconstitution in water prior to administration. Such reconstitution may be carried out in a pharmacy (by a pharmacist), or in an outpatient setting (by a patient).

The potential of LB1148 relies on its formulation as a liquid composition for oral administration, which is designed to stop the downstream effects of a disruption of the intestinal mucosal barrier. We are not aware of any other approved oral TXA-containing liquid compositions in the marketplace suitable for such administration.

Prevention of Postoperative Abdominal Adhesions: GI Surgery

Adhesion prevalence is reported to be >90% in patients who have undergone abdominal surgery and represents a significant contributory factor to serious complications such as small bowel obstruction, infertility, chronic abdominal pain, subsequent surgery, and other morbidities. On March 16, 2022 we announced data from a pooled-analysis of studies LBS-IST-POI-101 and LBS-POI-201-CN (PROFILE-CN) at the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) 2022 Annual Meeting. The results from the pooled analysis showed that 8/9 (89%) of subjects in the placebo group versus 2/8 (25%) in the LB1148 group had adhesions observed during a second follow-up surgery, representing a relative risk reduction of 72% ($p = 0.0152$). The mean total adhesion score which measures both the extent and severity of adhesions was 1.0 (8/8) for LB1148 and 14.3 (129/9) for placebo, representing relative risk reduction of 93% ($p = 0.0162$). We believe the reduction in the incidence of postoperative intra-abdominal adhesions as well as the reduction in the extent and severity of adhesions provides preliminary evidence of the clinically meaningful efficacy of LB1148 to reduce postoperative adhesions when compared to placebo.

In December 2022, we concluded enrollment of a randomized, double-blind, placebo-controlled, Phase 2 clinical trial of LB1148 in patients undergoing elective bowel resection surgery in the United States to evaluate if patients treated with LB1148 experience fewer postoperative intra-abdominal adhesions compared to placebo treated patients. We have enrolled a total of 35 of the planned 70 patients in this Phase 2 study. Of the patients enrolled, as of March 2, 2023, 31 patients had completed a first surgery, and 19 patients had completed a second surgery, which is primary assessment endpoint for data under the current study protocol. The Company believes that the data collected to date is sufficient for its evaluation purposes, including an evaluation of its risk profile, and for such reason, the Company voluntarily ceased enrollment in the trial. The Company expects to report topline data from the 35 patients in the second quarter of 2023.

The Company is currently planning a dose optimization study for all indications to determine if a different dosing protocol in healthy volunteers would enhance the risk profile of LB 1148 while simultaneously providing efficacy. It is anticipated that this study will generate pharmacokinetic and pharmacodynamic data across multiple doses in patients, with enrollment expected to commence in the second quarter of 2023.

Postoperative Return of Bowel Function: GI Surgery

On July 29, 2021, we and our co-development partner Newsoara announced topline data from a Phase 2 clinical trial (LBS-POI-201-CN (PROFILE-CN)) demonstrating that LB1148 had a statistically significant ($p=0.001$) effect in accelerating the return of bowel function in patients undergoing elective bowel resection surgery.

Results from the trial include:

- A 1.1-day improvement in GI recovery in patients receiving LB1148 vs placebo. The median time to return of bowel function was 2.77 days in patients treated with LB1148 and 3.83 days in those receiving placebo (hazard ratio = 1.886; $p = 0.0008$).
- The difference between groups increased at the 3rd quartile (75th percentile), with LB1148 (3.4 days) demonstrating a 1.5-day faster recovery of bowel function compared to placebo (4.9 days).
- LB1148 was well tolerated with 10.9% and 4.8% of patients in the LB1148 group and placebo group, respectively, experiencing a drug-related adverse event.
- The most common drug-related adverse events were GI disorders (LB1148 4.7% vs. placebo 3.2%).
- No drug-related serious adverse events occurred in the trial.

In May 2022, the Company's co-development partner in China received clearance from the Center for Drug Evaluation ("CDE") of the National Medical Products Administration ("NMPA") of the People's Republic of China to proceed with their Phase 3 clinical trial to evaluate LB1148 for accelerated return of bowel function in adult patients undergoing gastrointestinal surgery. In June 2022, based on data generated by this co-development partner in its earlier Phase 2 study, the Company initiated a Phase 3 clinical trial in the U.S. evaluating LB1148 to accelerate the return of bowel function in adult patients undergoing gastrointestinal surgery. LB1148 also received Fast Track designation from the FDA in November 2022 for the acceleration of time to return of bowel function, as defined as upper and lower GI recovery in adult patients undergoing abdominal surgery.

In late September of 2022, the Board, in connection with a special clinical subcommittee it appointed, initiated a review of the Company's operations, including its ongoing clinical programs. As part of the review, the Company engaged the services of independent third-party clinical development experts to assist in the review. In October of 2022, the review identified that in 2020, a former member of the Company's management received unblinded clinical data related to bowel function from a subset of patients in the Company's ongoing U.S. Phase 2 study.

Upon discovery of this information, the special clinical subcommittee of the Board commenced a thorough review of the Company's ongoing clinical programs. As a result of the review, the Company determined that the current U.S. Phase 3 study protocol required additional standardization across sites and further clarification in the definition of endpoints to permit an adequate assessment of the efficacy of LB1148 to recover GI function. The Company does not believe that the favorable safety and tolerability profiles of LB1148 were impacted by these findings.

Prior Regulatory History of Third-Party Products with TXA Active Ingredients

The active ingredient in LB1148, TXA, is a marketed drug that has been evaluated in human clinical trials and in tens of thousands of patients. Supporting these observations is also over 40 years of post-marketing data from approved TXA products. Studies and regulatory bodies have suggested that TXA administration, while accompanied by a potential increased risk of thrombosis and rare hypersensitivity, may be generally safe and well-tolerated. TXA is an over-the-counter medicine for treating heavy menses in multiple countries, including the United Kingdom, Canada, Japan, and Sweden.

Clinical Development of LB1148

Completed Clinical Trials

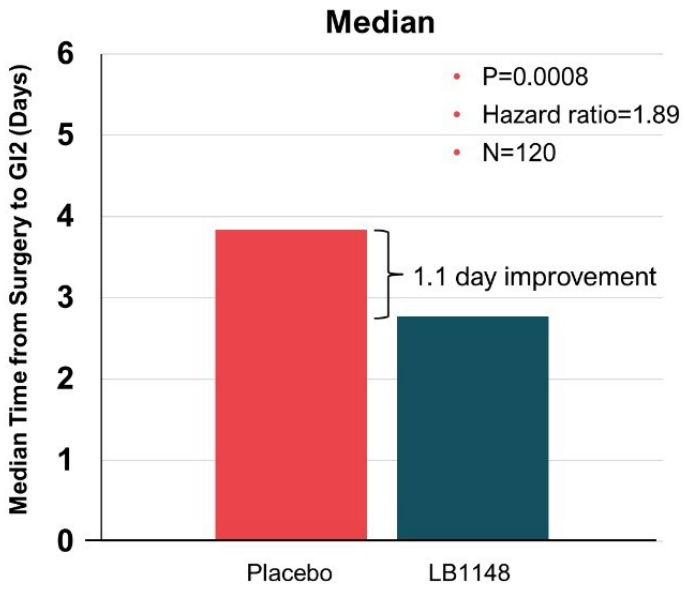
GI Surgery Phase 1, LBS-IST-POI-101

LBS-IST-POI-101 was a Phase 1, single-site, open-label, investigator-sponsored trial that enrolled 11 and evaluated 10 patients at a hospital in the United States. The trial evaluated the use of LB1148 for safety and preliminary efficacy in subjects undergoing elective bowel resection. Safety and preliminary data were collected and interpreted by the investigator. Data from this study was used to inform our future studies in the prevention of postoperative abdominal adhesions and acceleration of postoperative return of bowel function.

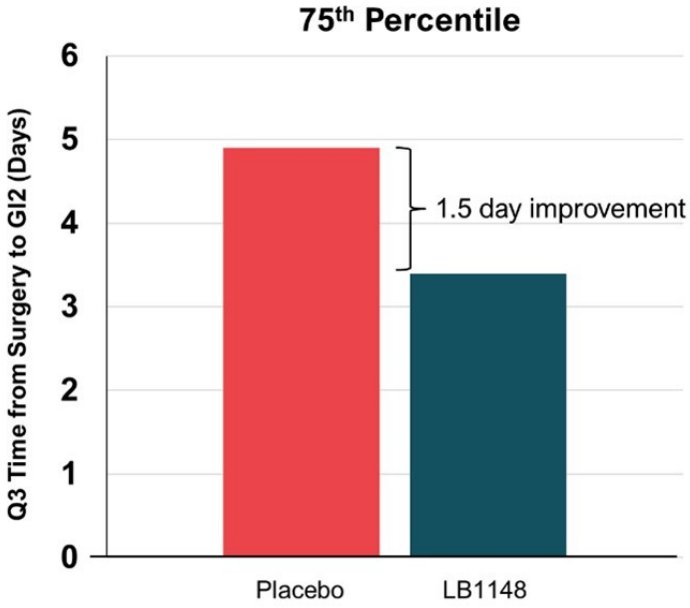
GI Surgery Phase 2, LBS-POI-201-CN (PROFILE-CN)

LBS-POI-201-CN was a multicenter, randomized, double-blind, parallel, placebo-controlled, proof-of-concept Phase 2 study of LB1148 in patients undergoing bowel resection conducted by Newsoara, our co-development partner in the People's Republic of China. The study evaluated 120 subjects. Subjects were randomized into 2 treatment groups (LB1148 or placebo) at a ratio of 1:1. Subjects were stratified by: (1) surgical method (minimally invasive or laparotomy), and 2) whether or not there was a planned stoma. Subjects received a split, oral dose of LB1148 or placebo: 350 mL 6-10 hours before surgery and 350 mL 2-6 hours before surgery. Perioperative care was standardized at all sites per study protocol. The primary outcome was GI-2, defined in the study as the recovery of bowel function measured as the time from the end of surgery to passage of stool with tolerance of oral food within 14 days.

For the LB1148 group, the median time to the primary endpoint of recovery of bowel function was 2.77 days for subjects treated with LB1148 and 3.83 days for subjects receiving placebo. The median time difference between the two groups was 25.5 hours, that is, the median time from the LB1148 group to the GI-2 as defined by the study was 25 hours less than the placebo group (hazard ratio = 1.886; $p = 0.0008$).



The difference between groups increased at the 3rd quartile (75th percentile), with LB1148 (3.4 days) demonstrating a 1.5-day shorter recovery of bowel function compared to placebo (4.9 days).



LB1148 appeared to be well tolerated in this trial. The most common adverse events were fever, nausea, hypoalbuminemia, vomiting, bloating, constipation, abdominal pain, diarrhea, lowered blood sugar, expectorant cough, cough, hypotension and anemia. There was no significant difference in the distribution of adverse events between LB1148 and placebo groups. A total of 13 subjects had serious adverse events ("SAE"), including 5 (7.8%) in the LB1148 group and 8 (12.7%) in the placebo group. No SAEs related to the drug occurred in the trial, and there were no adverse events that led to drug discontinuation or withdrawal of subjects from the trial.

For AEs of special interest, there were there were 3 (4.7%) cases of POI in the LB1148 group and 2 cases (3.2%) in the placebo group. No subjects in the LB1148 group had postoperative complications compared to 5 (7.9%) in the

placebo group. No subject had a venous thrombotic event. Overall, AEs are balanced between the groups and there are no apparent trends for type or severity of AEs.

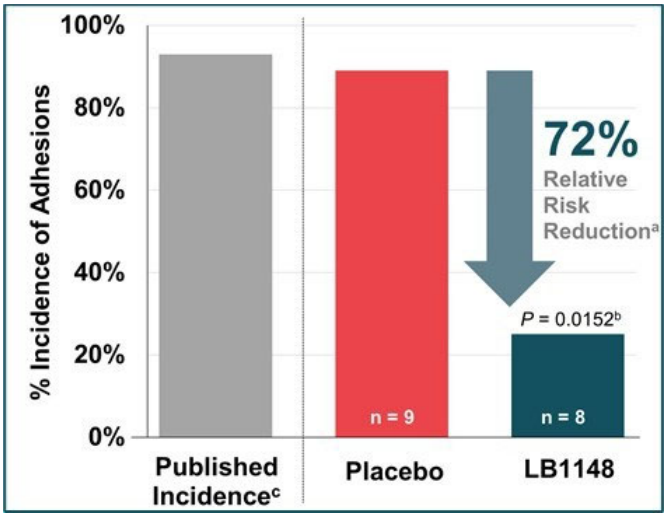
Taken together, we believe these data demonstrate that LB1148 may potentially accelerate the time to return of GI function following GI surgery with a favorable safety and tolerability profile. We believe these data lay the groundwork for proceeding to pivotal studies for the return of bowel function indication.

Pooled-Analysis of Postoperative Intra-abdominal Adhesions LBS-IST-POI-101 and LBS-POI-201-CN

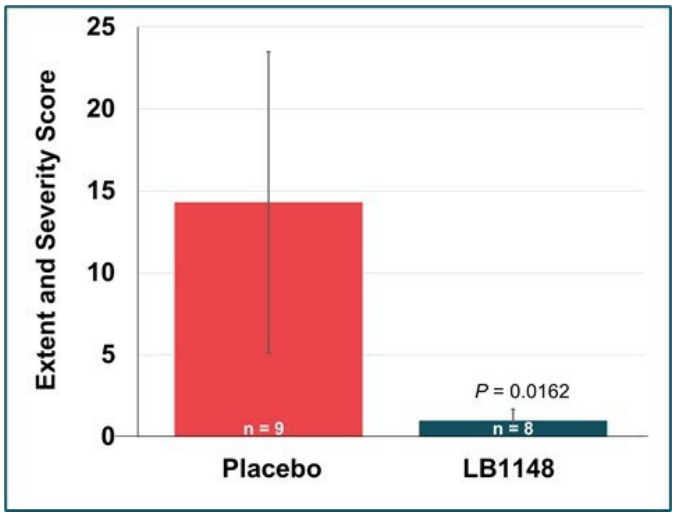
Studies LBS-IST-POI-101 and LBS-POI-201-CN assessed the efficacy of LB1148 to reduce the formation of adhesions in subjects undergoing abdominal surgery. Study LBS-IST-POI-101 was a Phase 1, single-site, open-label, investigator-sponsored trial at a hospital in the United States. Study LBS-POI-201-CN was a Phase 2, randomized, double-blind, placebo-controlled study to evaluate LB1148 for return of gastrointestinal function in subjects undergoing elective bowel resection (PROFILE-CN). In both trials, adhesions were quantified at the time of surgical closure during a first surgery and at the time of opening a second surgery for those subjects who had a second surgical procedure.

A total of 3/11 subjects in LBS-IST-POI-101 and 14/120 subjects in LBS-POI-201-CN underwent a second surgery at which time adhesion formation was assessed. In both studies, study drug was administered as part of the bowel preparation prior to surgery. Data were pooled from the two trials and the incidence, extent and severity of adhesion for subjects treated with LB1148 or placebo were compared. Grading of the adhesions (extent and severity) was performed by the surgeon during the second surgical procedure.

The results from the pooled analysis showed that 8/9 (89%) of subjects in the placebo had one or more adhesions. For subjects treated with LB1148, 2/8 (25%) had adhesions observed during the second follow-up surgery, representing a relative risk reduction of 72% (P-value of 0.0152).



The mean extent and severity adhesion score in subjects who had a second surgery in the pooled analysis was 1.0 (±0.672 SEM) for LB1148 treated subjects and 14.3 1.0 (±9.19 SEM) for placebo subjects, representing reduction in the extent and severity score of 93% (P = 0.0162).



Although this analysis includes a small number of subjects across two studies, the lower incidence of postoperative intra-abdominal adhesions, and the reduction in the extent and severity of adhesions seems to indicate that LB1148 has the potential to reduce postoperative adhesions when compared to placebo. The overall surgical procedural types between placebo and drug were comparable and reflect the increasing trend toward minimally invasive techniques in abdominal surgery.

Ongoing Clinical Trials

GI Surgery Phase 2, LBS-POI-201-US (PROFILE-US)

LBS-POI-201-US is a multicenter, randomized, double-blind, parallel, placebo-controlled, adaptive design, proof-of-concept Phase 2 study of LB1148 in patients undergoing bowel resection. The study enrolled patients in the United States to evaluate a pre-operative dose of LB1148 as compared to placebo, with the purpose of establishing preliminary evidence of efficacy safety and tolerability of LB1148, for the treatment of POI and prevention of intra-abdominal adhesions in patients undergoing elective bowel resection. The PROFILE-US study was amended so that reduction in intra-abdominal adhesions is the primary endpoint. Further, the study design was amended to ensure adequate enrollment of patients receiving an adhesions assessment to inform the statistical design of pivotal studies for adhesions indications. The trial completed enrollment in December of 2022 with a total of 114 patients having been enrolled. A subset of the enrolled patients is anticipated to complete their planned second surgery for an adhesions assessment in 2023.

All randomized patients were divided between two treatment groups (LB1148 or placebo) in a 1:1 ratio stratified by surgical approach (either minimally invasive technique or laparotomy). All patients enrolled after the primary endpoint was amended to assess intra-abdominal adhesions are expected to have a planned repeat abdominal operation (i.e., stoma takedown), and are expected to participate in the study until the repeat abdominal operation and intra-abdominal adhesion assessments have been completed. For the planned second surgery, the additional efficacy endpoints include physician-recorded values evaluating the extent and severity of visible intra-abdominal adhesions using an assessment worksheet recorded at both the first and second surgeries, and physician assessment of the clinical consequences of the visible intra-abdominal adhesions on bowel function and pain.

Patients received 700 mL of LB1148 (or placebo) administered as a split dose in the two to ten hours prior to surgery. The primary endpoint is the change from baseline in extent and severity of intra-abdominal adhesions. The secondary endpoints include the incidence of intra-abdominal adhesions, time to GI-2, hospital length of stay, time to GI-3 (time to toleration of solid food and first flatus or first bowel movement), time to resolution of POI (if present), and time to resolution or appearance, as appropriate, of one or more of the components common to GI dysfunction following elective bowel surgery with or without a planned stoma.

Global Phase 3 to Accelerate the Return of GI Function following Abdominal Surgery, PBI-POI-301

In the second half of 2022, we initiated a Phase 3, multicenter, randomized, double-blind, placebo-controlled, clinical study to evaluate the safety and efficacy of LB1148 in 600 subjects undergoing planned bowel resection. All subjects were to receive 700 mL of LB1148 or placebo in a split, oral dose of 350 mL at 6-10 hours and 2-6 hours prior to surgery. The primary objective was to compare the time to GI-2, defined as the time from the end of surgery to the time of recovery of the upper GI tract (toleration of solid food) and the lower GI tract (first bowel movement) following surgery. Secondary measures included safety, measures of bowel movement and hospital length of stay. This study was intended to be a confirmatory trial to provide evidence that LB1148 is safe and effective in accelerating the time to return of bowel function in subjects undergoing abdominal surgery. The population for this study included adult patients scheduled to undergo a planned (non-emergent) bowel resection via minimally invasive technique or laparotomy. That included any subject in which a resection of the small intestine, colon, or rectum was performed for any elected indication. The exclusion criteria included underlying conditions that might put a subject at risk (i.e., where treatment with TXA is contraindicated) or has condition such that their inclusion would make either safety or efficacy analyses difficult to interpret. The postoperative follow-up for an individual subject was approximately 90 days after surgery. Enrollment for the study was paused in November 2022, as the study design requires additional standardization across sites and further clarification in the definition of endpoints to permit an adequate assessment of the efficacy of LB1148 to recover GI function. At the time of enrollment pause, 23 patients were enrolled.

Planned Clinical Trials

U.S Phase 1 Healthy Volunteer Pharmacokinetic (PK) and Pharmacodynamic (PD) Study, PBI-ADH-101

The Company is currently planning a dose optimization study for all indications to determine if a different dosing protocol in healthy volunteers would enhance the risk profile of LB 1148 while simultaneously providing efficacy. It is anticipated that this study will generate pharmacokinetic and pharmacodynamic data across multiple doses in patients, with enrollment expected to commence in the second quarter of 2023.

Newsoara GI Surgery Phase 3

As discussed above, in May 2022, Newsoara received clearance from the CDE of the NMPA of the People's Republic of China to proceed with their Phase 3 clinical trial to evaluate LB1148 for accelerated return of bowel function in adult patients undergoing gastrointestinal surgery. The Company anticipates that this trial will be initiated in 2023.

Regulatory Considerations for LB1148

LB1148 has been granted Fast Track designation from the FDA for the following indications:

- The reduction of adhesions following abdominal and pelvic surgery.
- The treatment of postoperative GI dysfunction (which may present as feeding intolerance, ileus, NEC, etc.) associated with gut hypoperfusion injury in pediatric patients who have undergone congenital heart disease repair surgery.
- The acceleration of time to return of bowel function, as defined as upper and lower GI recovery in adult patients undergoing abdominal surgery.

The LB1148 final drug product contains polyethylene glycol 3350 ("PEG"). In certain circumstances, in different countries and across different regulatory authorities, PEG may be regulated as an inactive ingredient, a medical device, or an active ingredient. We believe that there is ambiguity and risk regarding the PEG in LB1148 being classified as an active ingredient. From our communications with regulatory authorities including the FDA about our development of LB1148, there remains uncertainty about (1) whether regulatory agencies will classify LB1148 as a fixed-combination drug product and (2) consequential implications of, for example, FDA's fixed-combination drug product regulation concerning the evaluation of each active drug component's individual contribution to the overall treatment effect. The treatment of PEG and any regulatory requirements, if it is considered an active ingredient, may differ across regulatory authorities. If LB1148 is considered a fixed-combination drug product, then this may impact the design and overall number of required clinical trials as well as additional requirements for nonclinical studies. Due to this, we may be required to conduct additional trials, which could include the use of a factorial design, and nonclinical

studies if, for example, FDA (1) concludes that PEG is an active ingredient in LB1148 and (2) is unwilling to provide a waiver from meeting their fixed-combination drug product regulation/requirements. It is important to note that before GI surgery, most patients undergo a mechanical bowel prep. Traditionally, the standard of care for a bowel prep includes PEG. Therefore, including a treatment arm of a clinical trial that would not allow for a standard bowel prep containing PEG may be impractical. As a result, we believe that it would be impractical and infeasible to exclude the use of PEG as part of the mechanical bowel prep for GI surgery studies.

Manufacturing

We do not own or operate any manufacturing facilities. We rely on third-party contract manufacturing organizations ("CMOs") to manufacture and supply our preclinical and clinical materials to be used during the development of our drug candidates, including our lead drug product. As our product candidates advance through development, we expect to enter into longer-term commercial supply agreements with key suppliers and manufacturers to fulfill and secure our production needs.

To that end, we have entered into an umbrella services agreement with a manufacturing company who we expect to lead our drug manufacturing efforts and under which we plan to enter into individual project agreements to meet our future drug manufacturing needs. Although we rely on CMOs, we have personnel and third-party consultants with extensive drug manufacturing experience to oversee the relationships with our CMOs. It is also our intent to identify and qualify additional manufacturers to provide API and drug product manufacturing.

LB1148 is a dry powder for reconstitution, consisting of the previously approved API (tranexamic acid) as well as other components. Drug product manufacturing is a relatively straightforward operation, involving the blending of dry components. To date, controlled stability experiments indicate that the active ingredient is highly stable and that the drug product has a long shelf life.

Sales and Marketing

We do not currently have any approved products. However, where we believe it is appropriate, we may build internal commercial infrastructure, utilize strategic partners, distributors, or contract sales forces to effectively support the commercialization of LB1148, if approved, and any other products that we develop in the future. In the U.S. we estimate that cardiovascular and abdominal surgeries collectively represent close to seven million addressable patients, which we believe, based on certain assumptions, could translate into over $2 billion in annual sales for LB1148, if approved for marketing. We believe that we may be able to address the market using our own targeted, specialty sales and marketing organization supported by internal sales personnel, an internal marketing group, and distribution support.

We plan to utilize a variety of marketing programs to promote LB1148, if approved, including sales promotional materials, speaker programs, journal advertising, industry publications, medical conferences, electronic media, and product sampling. Additional capabilities important to commercialization of LB1148, if approved, and any other products that we may develop in the future, include the management of key accounts, such as managed care organizations, hospital and specialty pharmacies, and government accounts – where formulary acceptance is necessary for product adoption and reimbursement.

We currently do not expect that we will require large pharmaceutical partners for the commercialization of our product candidates, although we may consider partnering in certain territories or indications or for other strategic purposes. We intend to continuously evaluate our commercialization strategy as we advance our clinical and preclinical programs.

Competition

Drug development is highly competitive and subject to rapid and significant technological advancements. Our ability to compete will greatly depend upon our ability to complete necessary clinical trials and the related regulatory approval processes, and successfully market any product that we may successfully develop. The key competitive factors that will affect the commercial success of any product candidate for which we may receive marketing approval include efficacy, safety, tolerability, dosing convenience, price, coverage and reimbursement.

Our current and potential future competitors are diverse. There are many public and private biopharmaceutical companies, universities, governmental agencies and other research organizations actively engaged in the research and development of products that may be similar to our product candidates or address similar markets. In addition, the number of companies seeking to develop and commercialize products and therapies similar to our product candidates is likely to increase.

To our knowledge, there are no approved therapeutics for treating or preventing postoperative intra-abdominal adhesions. The only potential oral therapeutic in clinical development we are aware of is TTX 333 Evitar™ being developed by Temple Therapeutics based in the Netherlands. However, we face general competition from other medical interventions for adhesions, namely surgical procedures and adhesion barrier products. Adhesion barrier products approved for abdominal or pelvic surgery in the United States consist of SEPRAFILM, by Baxter, INTERCEED®, by Gynecare, and ADEPT® by Baxter. In addition, several products are used off-label for adhesion prevention in the United States, including EVICEL®, by Omrix Biopharmaceuticals Ltd., SURGIWRAP®, by MAST Biosurgery, COSEAL™, by Baxter, and PRECLUDE™, by Gore Medical. Adhesion barrier products available outside the United States include HYALOBARRIER®, by Anika, SPRAYSHIELD™, by Covidien, PREVADH™, by Medtronic and INTERCOAT™, by Ethicon Ltd. Such products are used as adjunctive interventions, have variable efficacy, and are not easily used with laparoscopic procedures, which are becoming increasingly common.

We expect to face competition related to postoperative improvement of bowel function from alvimopan, marketed as a branded product, ENTEREG®, by Merck, as well as in generic form. Alvimopan, a peripherally acting μ-opioid receptor antagonist, is currently the only approved therapeutic indicated to accelerate return for bowel function. However, the alvimopan label is restricted to those surgeries that include partial bowel resection with primary anastomosis. Other companies may be developing product candidates for postoperative improvement of bowel function that could pose future competition if approved for sale in overlapping territories.

Intellectual Property

Our commercial success depends in part on our ability to (i) obtain and maintain proprietary protection to protect our current and future product candidates, novel discoveries, product development technologies, improvements, and know-how; (ii) preserve the confidentiality of our trade secrets and confidential information; (iii) maintain our co-development agreements and licenses for exclusive commercial rights to intellectual property, including patent rights co-owned with third parties; (iv) defend and enforce our proprietary rights, including our patents; and (v) operate without infringing valid and enforceable patents and other proprietary rights of third parties.

We seek to protect our proprietary position by, among other methods, filing or in-licensing U.S. and foreign patents and patent applications related to technology, inventions and improvements that are important to the development and implementation of our business. As for the product candidates we develop and plan to commercialize, as a normal course of business, we generally have pursued, or intend to pursue, composition and therapeutic use patents, as well as patents directed to dosing regimens and additional prospective indications. We also rely, as needed, on trademarks, trade secrets, copyright protection, know-how, continuing technological innovation and confidential information to develop and maintain our proprietary position. We also will pursue data exclusivity, market exclusivity, and other regulatory exclusivities, as applicable and available.

Regardless of the coverage we seek under our existing patent families, there is always a risk that an alteration to our products, methods, or processes may provide sufficient basis for a competitor to avoid infringement claims. In addition, the coverage claimed in a patent application can be significantly reduced before a patent is issued, and courts can reinterpret patent scope after issuance. Moreover, many jurisdictions, including the United States, permit third parties to challenge issued patents in administrative proceedings, which may result in further narrowing or even cancellation of patent claims. Moreover, we cannot provide any assurance that any patents will be issued from our pending or any future applications or that any current or future issued patents will adequately protect our intellectual property.

While we seek broad coverage under our existing patent applications, there is always a risk that an alteration to the products or processes may provide sufficient basis for a competitor to avoid infringing our patent claims. In addition, patents, if granted, expire and we cannot provide any assurance that any patents will be issued from our pending or any future applications or that any potentially issued patents will adequately protect our products or product candidates.

Individual patents extend for varying periods depending on the date of filing of the patent application or the date of patent issuance and the legal term of patents in the countries in which they are obtained. Generally, patents issued for regularly filed applications in the United States are granted a term of 20 years from the earliest non-provisional filing date from which priority is claimed. In addition, in certain instances, a patent term can be extended to recapture a period due to delay by the United States Patent and Trademark Office ("USPTO") in issuing the patent as well as a portion of the term effectively lost as a result of the FDA regulatory review period. However, as to the FDA component, the restoration period cannot be longer than five years and the total patent term including the restoration period must not exceed 14 years following FDA approval. The duration of foreign patents varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest effective non-provisional filing date. However, the actual protection afforded by a patent varies on a product-by-product basis, from country to country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country and the validity and enforceability of the patent.

Our commercial success will also depend in part on not infringing upon the proprietary rights of third parties. It is uncertain whether the issuance of any third-party patent would require us to alter our development or commercial strategies for our products, if approved, or processes, or to obtain licenses or cease certain activities. Our breach of any license agreements or failure to obtain a license to proprietary rights that we may require to develop or commercialize our future products may have an adverse impact on us. If third parties prepare and file patent applications in the United States that also claim technology to which we have rights, we may have to participate in interference or derivation proceedings.

LB1148 Patent Portfolio

Currently, we solely own (or co-own with exclusive commercial rights) four patent families with claims directed to compositions covering components of LB1148, including the protease inhibitor tranexamic acid, or their therapeutic uses and dosing regimens:

The First Family is directed to compositions comprising four components of LB1148 and their therapeutic use in treating shock and other indications. As of March 14, 2023, this patent family includes a patent in Europe , three granted patents in the United States, two granted patents in Taiwan, granted patents in Australia, India, Japan, and Mexico, a recently granted patent in Korea (KR 2397379) that granted on May 9, 2022, an application in Canada (CA 2942358) that was recently allowed on October 3, 2022, and a pending application in the U.S., all of which we solely own. In addition, this family includes a granted patent in China that we previously assigned to Newsoara to support our co-development agreement which is described below. The expected expiration date of the issued patents (or any patents that may issue from pending applications) is 2035, excluding any adjustments or extensions of patent term that may be available.

The Second Family, which we jointly own with the University of California, is directed to compositions comprising three (or fewer) components of LB1148 and their therapeutic use in treating shock and other indications. Under our 2015 License with the University of California (as discussed in the section entitled "License Agreements and Collaborations"), we have exclusive commercial rights to this family. As of March 14, 2023, this patent family includes three granted patents in the U.S., granted patents in China, Canada, and Korea, an application in Europe (EP 19209258) that recently received an intention to grant on November 16, 2022, and a pending application in the U.S. The expected expiration date of the issued patents (or any patents that may issue from pending applications) is 2031, excluding any adjustments or extensions of patent term that may apply.

The Third Family covers the use of LB1148 (or its active ingredient, tranexamic acid) in certain therapeutic indications, including POI and adhesions, which align with our current clinical and commercial strategy. This family also covers specific split-dose regimens of LB1148 that can apply to the current therapies. As of March 14, 2023, this patent family includes a patent in the United States, a recent patent in Australia (AU 2017207745) that was issued on February 9, 2023, as well as pending applications in Europe, Canada, and Hong Kong, all of which we solely own. In addition, this family includes a patent in China that we previously assigned to Newsoara to support our co-development agreement with Newsoara (as discussed in the section entitled "License Agreements and Collaborations"). The expected expiration date of any patents (or patents that may issue from pending applications) is 2037, excluding any adjustments or any extensions of patent term that may apply.

The Fourth Family, which we solely own, consists of a U.S. patent application with claims covering the use of LB1148 in methods of controlling glucose levels in diabetic patients in hospital and non-hospital settings. The expected expiration date of any patents that may issue from pending applications is 2038, excluding any adjustments or any extensions of patent term that may apply.

License Agreements and Collaborations

2015 License Agreement with the Regents of the University of California

In August 2015, LBS entered into a license agreement with the Regents of the University of California (the "Regents"), as amended in December 2019 and September 2022 (the "2015 UC License"). Pursuant to the 2015 UC License, we have an exclusive, sublicensable, worldwide license under certain patent rights to make, use, sell, offer for sale and import products and practice methods covered by the claims of the licensed patent rights in the field of protease inhibitor administration in therapeutic indications including, among others, uses in surgery generally, and treatment of shock, sepsis, inflammatory disease and postoperative ileus and adhesions. We utilize these licensed patent rights in certain compositions comprising components of LB1148, including the active ingredient, tranexamic acid.

Upon the execution of the 2015 UC License, LBS paid a one-time license issue fee of $3,500 and are obligated to pay an annual license maintenance fee in the mid four-digit dollar range until such time that we are commercially selling a licensed product. We are also obligated to make: (i) payments up to $250,000 in the aggregate upon achievement of certain regulatory milestones and (ii) tiered royalty payments in the low single-digit percentage range on annual net sales of licensed products, subject to a minimum annual royalty in the low five-digit dollar range and adjustments to the royalty percentage in certain events. Further, we are obligated to pay a percentage of non-royalty licensing revenue we receive from our sublicensees under the 2015 UC License to the Regents.

Under the 2015 UC License, we are required to diligently proceed with the development, manufacture, and sale of licensed products and is subject to a number of diligence obligations relating to developmental, regulatory and commercialization milestones for the licensed products, as well as a minimum annual spend requirement in the low six-digit dollar range.

The 2015 UC License will expire upon the expiration date of the longest-lived patent right licensed under the 2015 UC License. The Regents may terminate the 2015 UC License if: (i) a material breach by us is not cured within 60 days, (ii) we file a claim asserting the Regents licensed patent rights are invalid or unenforceable, or (iii) we file for bankruptcy. We also have the right to terminate the 2015 UC License at any time upon at least 90 days' written notice.

2020 License Agreement with the Regents of the University of California

In April 2020, LBS entered into another license agreement with the Regents (the "2020 UC License"). Pursuant to the 2020 UC License Agreement, we have an exclusive, sublicensable, worldwide license under certain patent rights to make, use, sell, offer for sale and import products and practice methods covered by the claims of the licensed patent rights as directed to synthetic charge-changing substrates and methods for detecting protease activity in animal and human clinical samples. Under the 2020 UC License, the exclusive rights include analysis of animal samples and human clinical samples (including microbial samples from an animal or human), including detecting and measuring proteases, enzymes, and biomolecules in bodily fluids, breath, and other sources but excluding analysis of human clinical samples associated with blood cancers, solid tumors, and other samples related to oncology conditions and diseases. We expect these licensed patent rights to support our pipeline activities, including those focused on identifying new drug targets and diagnostics.

Upon the execution of the 2020 UC License, LBS paid a one-time license issue fee of $5,000, agreed to reimburse the Regents for past patent costs and are obligated to pay an annual license maintenance fee in the mid four-digit dollar range until such time that it is commercially selling a licensed product. We are also obligated to make: (i) payments up to approximately $1.9 million in the aggregate upon achievement of certain development, regulatory and commercial milestones and (ii) royalty payments in the low- to mid-single-digit percentage range on annual net sales of licensed products, subject to a minimum annual royalty in the low five-digit dollar range and adjustments the royalty percentage in certain events. Further, we are obligated to pay to the Regents a percentage of non-royalty licensing revenue we receive from our sublicensees under the 2020 UC License.

Under the 2020 UC License, we are subject to a number of diligence obligations relating to developmental, regulatory and commercialization milestones for the licensed products, as well as a minimum annual spend requirement in the low six-digit dollar range.

The 2020 UC License will expire upon the later of the expiration date of the longest-lived patent right licensed under the 2020 UC License. The Regents may terminate the 2020 UC License if: (i) a material breach by us is not cured within 60 days, (ii) we file a claim asserting the Regents licensed patent rights are invalid or unenforceable, or (iii) we file for bankruptcy or becomes insolvent. We also have the right to terminate the 2020 UC License at any time upon at least 90 days' written notice.

2021 License Agreement with the Regents of the University of California

In July 2021, we entered into another license agreement with the Regents (the "2021 UC License") to obtain exclusive rights to the cancer-related indications and uses that had been excluded under the 2020 UC License. Pursuant to the 2021 UC License Agreement, we have an exclusive, sublicensable, worldwide license under certain patent rights that now include cancer to make, use, sell, offer for sale and import products and practice methods covered by the claims of the licensed patent rights as directed to synthetic charge-changing substrates and methods for detecting protease activity in animal and human clinical samples. In conjunction with the 2020 UC License, we expect these licensed patent rights to further enhance pipeline activities, including those focused on identifying new drug targets and diagnostics.

Upon execution of the 2021 UC License, we paid a one-time license issue fee of $10,000 and are obligated to pay an annual license maintenance fee in the mid four-digit dollar range until such time that it is commercially selling a licensed product. We are also obligated to make: (i) payments up to approximately $1.9 million in the aggregate upon achievement of certain development, regulatory and commercial milestones and (ii) royalty payments in the low- to mid-single-digit percentage range on annual net sales of licensed products, subject to a minimum annual royalty in the low five-digit dollar range and adjustments to the royalty percentage in certain events. Further, we are obligated to pay the Regents a percentage of non-royalty licensing revenue we receive from any sublicensees under the 2021 UC License.

Under the 2021 UC License, we are subject to a number of diligence obligations relating to developmental, regulatory and commercialization milestones for the licensed products, as well as a minimum annual spend requirement in the low six-digit dollar range.

The 2021 UC License will expire upon the later of the expiration date of the longest-lived patent right licensed under the 2021 UC License. The Regents may terminate the 2021 UC License if: (i) a material breach by us is not cured within 60 days, (ii) we file a claim asserting the Regents licensed patent rights are invalid or unenforceable, or (iii) we file for bankruptcy or become insolvent. We also have the right to terminate the 2021 UC License at any time upon at least 90 days' written notice.

Co-Development and Distribution Agreement with Newsoara

In February 2018, we entered into a co-development and distribution agreement with Newsoara, a joint venture established with Biolead Medical Technology Limited, as amended in November 2018 (the "Co-Development Agreement"). Pursuant to the Co-Development Agreement, we granted Newsoara an exclusive co-development right under certain patents and know-how owned or controlled by us to develop, use, sell, offer to sell, import, and otherwise commercialize licensed products (the "Licensed Products") for any and all indications in the People's Republic of China, including the regions of Hong Kong and Macao, but excluding Taiwan (the "Territory"). The Licensed Products only include LB1148. The Co-Development Agreement obligates Newsoara to initially use us as the exclusive supplier for all of Newsoara's requirements for Licensed Products in the Territory.

Under the Co-Development Agreement, Newsoara is responsible for meeting certain regulatory milestones and is required to share with us the preclinical and clinical data it generates that pertains to the Licensed Products. The Company also obtained from Newsoara (i) an exclusive license under certain patents and know-how owned or controlled by Newsoara ("Newsoara Technology") to make, have made, use, sell, offer to sell, import, and otherwise develop and commercialize Licensed Products in any and all indications outside of the Territory, and (ii) a non-exclusive license under the Newsoara Technology to make, have made, use, sell, offer to sell, and import Licensed Product inside the Territory to the extent necessary to comply with certain of our obligations under the Co-Development Agreement.

In consideration of the rights granted to Newsoara under the Co-Development Agreement, Newsoara paid us a one-time upfront fee of $1.0 million in 2018. In addition, Newsoara is obligated to make (i) payments up to $6.75 million in the aggregate upon achievement of certain regulatory and commercial milestones, (ii) payments in the low six-digit range per licensed product upon achievement of a regulatory milestone and (iii) tiered royalty payments ranging from the mid-single-digit to low-double-digit percentage range on annual net sales of Licensed Products, subject to adjustment to the royalty percentage in certain events.

The Co-Development Agreement will expire upon the later of the expiration date of the last valid claim of any licensed patent covering the Licensed Products in the Territory. In addition, the Co-Development Agreement can be terminated (i) by either party for the other party's material breach that remains uncured for a specified time period after written notice or for events related to the other party's insolvency, (ii) by us if Newsoara challenges or attempts to interfere with any licensed patent rights and, (iii) by Newsoara for any reason upon specified prior written notice.

Trade Secrets and Confidentiality

We rely, in some circumstances, on trade secrets and other confidential information to protect our unpatented technology. However, trade secrets can be difficult to protect. We seek to protect our trade secrets and proprietary technology and processes, in part, by entering into non-disclosure and confidentiality agreements with our employees, consultants, collaborators, scientific advisors, suppliers, contractors and other third parties. In addition, we enter into employment agreements that require employees to assign to us any inventions, trade secrets or know-how that they develop while employed by us.

We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached, and our trade secrets and other proprietary information may be disclosed. We may not have adequate remedies for any breach and could lose our trade secrets and other proprietary information through such a breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our consultants, contractors or collaborators use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting trade secrets, know-how and inventions.

Government Regulation and Product Approval

The FDA and other regulatory authorities at federal, state and local levels, as well as in foreign countries, extensively regulate, among other things, the research, development, testing, manufacture, quality control, import, export, safety, effectiveness, labeling, packaging, storage, distribution, record keeping, approval, advertising, promotion, marketing, post-approval monitoring and post-approval reporting of drugs and biologics such as those we are developing.

Small molecule drugs are subject to regulation under the Food, Drug, and Cosmetic Act ("FDCA") and biological products are additionally subject to regulation under the Public Health Service Act ("PHSA") and both are subject to additional federal, state, local and foreign statutes and regulations. We, along with third-party contractors, will be required to navigate the various preclinical, clinical and commercial approval requirements of the governing regulatory agencies of the countries in which we wish to conduct studies or seek approval or licensure of our product candidates.

U.S. Biopharmaceuticals Regulation

The process required by the FDA before drug and biologic product candidates may be marketed in the United States generally involves the following:

- completion of extensive preclinical laboratory tests and animal studies performed in accordance with applicable regulations, including the FDA's Good Laboratory Practice ("GLP") regulations;
- submission to the FDA of an investigational new drug application ("IND") which must become effective before clinical trials may begin;
- approval by an independent institutional review board or ethics committee at each clinical site before the trial is commenced;

- performance of adequate and well-controlled human clinical trials in accordance with FDA's Good Clinical Practice ("GCP") regulations to establish the safety and efficacy of a drug candidate and safety, purity and potency of a proposed biologic product candidate for its intended purpose;
- preparation of and submission to the FDA of a new drug application ("NDA") or biologics license application ("BLA"), as applicable, after completion of all pivotal clinical trials;
- satisfactory completion of an FDA Advisory Committee review, if applicable;
- a determination by the FDA within 60 days of its receipt of an NDA or BLA to file the application for review;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the proposed product is produced to assess compliance with current Good Manufacturing Practice requirements ("cGMPs"), and of selected clinical investigation sites to assess compliance with GCPs; and
- FDA review and approval of an NDA, or licensure of a BLA, to permit commercial marketing of the product for particular indications for use in the United States.

Preclinical and Clinical Development

Prior to beginning the first clinical trial with a product candidate, we must submit an IND to the FDA. An IND is a request for authorization from the FDA to administer an investigational new drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol or protocols for preclinical studies and clinical trials. The IND also includes results of animal and in vitro studies assessing the toxicology, pharmacokinetics, pharmacology and pharmacodynamic characteristics of the product, chemistry, manufacturing and controls information, and any available human data or literature to support the use of the investigational product. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day period, raises safety concerns or questions about the proposed clinical trial. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical study. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments. Furthermore, an independent institutional review board for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial begins at that site, and must monitor the study until completed. Regulatory authorities, the institutional review board or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy.

For purposes of biopharmaceutical development, human clinical trials are typically conducted in three sequential phases that may overlap or be combined;

- Phase 1. The investigational product is initially introduced into patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early indications of effectiveness.

- Phase 2. The investigational product is administered to a limited patient population to evaluate the preliminary efficacy, optimal dosages and dosing schedule and to identify possible adverse side effects and safety risks.

- Phase 3. The investigational product is administered to an expanded patient population to further evaluate dosage, to provide statistically significant evidence of clinical efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the investigational product and to provide an adequate basis for product approval.

In some cases, the FDA may require, or companies may voluntarily pursue, additional clinical trials after a product is approved to gain more information about the product. These so-called Phase 4 studies may be made a condition to approval of the application. Concurrent with clinical trials, companies may complete additional animal studies and develop additional information about the characteristics of the product candidate, and must finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, must develop methods for testing the identity, strength, quality and purity of the final product, or for biologics, the safety, purity and potency. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical study investigators. The FDA or the sponsor or its data safety monitoring board may suspend a clinical study at any time on various grounds, including a finding that the research patients or patients are being exposed to an unacceptable health risk. Similarly, an institutional review board can suspend or terminate approval of a clinical study at its institution if the clinical study is not being conducted in accordance with the institutional review board's requirements or if the biological product candidate has been associated with unexpected serious harm to patients. There are also requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries. Sponsors of clinical trials of FDA-regulated products are required to register and disclose certain clinical trial information, which is publicly available at www.clinicaltrials.gov.

NDA/BLA Submission and Review

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development, nonclinical studies and clinical trials are submitted to the FDA as part of an NDA or BLA, as applicable, requesting approval to market the product for one or more indications. The application must include all relevant data available from pertinent preclinical studies and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls, and proposed labeling, among other things. The submission of an application requires payment of a substantial application user fee to the FDA, unless a waiver or exemption applies. The FDA has sixty days from the applicant's submission to either issue a refusal to file letter or accept the application for filing, indicating that it is sufficiently complete to permit substantive review.

Once an NDA or BLA has been accepted for filing, the FDA's goal is to review standard applications within 10 months after it accepts the application for filing, or, if the application qualifies for priority review, six months after the FDA accepts the application for filing. In both standard and priority reviews, the review process is often significantly extended by FDA requests for additional information or clarification. The FDA reviews an NDA to determine whether a drug is safe and effective for its intended use and a BLA to determine whether a biologic is safe, pure and potent. FDA also reviews whether the facility in which the product is manufactured, processed, packed or held meets standards designed to assure and preserve the product's identity, safety, strength, quality, potency and purity. The FDA may convene an advisory committee to provide clinical insight on application review questions. Before approving an NDA or BLA, the FDA will typically inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an application, the FDA will typically inspect one or more clinical sites to assure compliance with GCPs. If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request

additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

After the FDA evaluates an application and conducts inspections of manufacturing facilities where the investigational product and/or its drug substance will be manufactured, the FDA may issue an approval letter or a Complete Response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A Complete Response letter will describe all of the deficiencies that the FDA has identified in the application, except that where the FDA determines that the data supporting the application are inadequate to support approval, the FDA may issue the Complete Response letter without first conducting required inspections, testing submitted product lots and/or reviewing proposed labeling. In issuing the Complete Response letter, the FDA may recommend actions that the applicant might take to place the application in condition for approval, including requests for additional information or clarification, which may include the potential requirement for additional clinical studies. The FDA may delay or refuse approval of an application if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If regulatory approval of a product is granted, such approval will be granted for particular indications and may entail limitations on the indicated uses for which such product may be marketed. For example, the FDA may approve the application with a risk evaluation and mitigation strategy ("REMS"), to ensure the benefits of the product outweigh its risks. A REMS is a safety strategy to manage a known or potential serious risk associated with a product and to enable patients to have continued access to such medicines by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing requirements is not maintained or if problems occur after the product reaches the marketplace. The FDA may require one or more Phase 4 post-market studies and surveillance to further assess and monitor the product's safety and effectiveness after commercialization, and may limit further marketing of the product based on the results of these post-marketing studies.

Expedited Development and Review Programs

The FDA offers a number of expedited development and review programs for qualifying product candidates. The Fast Track program is intended to expedite or facilitate the process for reviewing new products that meet certain criteria. Specifically, new products are eligible for Fast Track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast Track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a Fast Track product has opportunities for frequent interactions with the review team during product development and, once an NDA or BLA is submitted, the product may be eligible for priority review. A Fast Track product may also be eligible for rolling review, where the FDA may consider for review sections of the NDA or BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the application, the FDA agrees to accept sections of the application and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the application.

A product intended to treat a serious or life-threatening disease or condition may also be eligible for breakthrough therapy designation to expedite its development and review. A product can receive breakthrough therapy designation if preliminary clinical evidence indicates that the product, alone or in combination with one or more other drugs or biologics, may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the Fast Track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product, including involvement of senior managers.

Any marketing application for a drug or biologic submitted to the FDA for approval, including a product with a Fast Track designation and/or breakthrough therapy designation, may be eligible for other types of FDA programs intended to expedite the FDA review and approval process, such as priority review and accelerated approval. A product is eligible for priority review if it has the potential to provide a significant improvement in the treatment, diagnosis or prevention of a serious disease or condition. Priority review designation means the FDA's goal is to take action on the marketing application within six months of the 60-day filing date.

Additionally, products studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

Fast Track designation, breakthrough therapy designation and priority review do not change the standards for approval but may expedite the development or approval process. Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

Post-Approval Requirements

Any products manufactured or distributed by us pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing user fee requirements, under which the FDA assesses an annual program fee for each product identified in an approved NDA or BLA. Biopharmaceutical manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with current good manufacturing practices ("cGMPs"), which impose certain procedural and documentation requirements upon us and our third-party manufacturers. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMPs and impose reporting requirements upon us and any third-party manufacturers that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMPs and other aspects of regulatory compliance.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of a product, complete withdrawal of the product from the market or product recalls;
- fines, warning or untitled letters or holds on post-approval clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of existing product approvals;
- product seizure or detention, or refusal of the FDA to permit the import or export of products;

- consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;
- mandated modification of promotional materials and labeling and the issuance of corrective information;
- the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of biopharmaceutical products. A company can make only those claims relating to safety and efficacy, purity and potency that are approved by the FDA and in accordance with the provisions of the approved label. However, companies may share truthful and not misleading information that is otherwise consistent with a product's FDA approved labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer's communications on the subject of off-label use of their products.

The FDA also cannot approve an ANDA or 505(b)(2) application until all applicable non-patent exclusivities listed in the Orange Book for the branded reference drug have expired. For example, a pharmaceutical manufacturer may obtain five years of non-patent exclusivity upon NDA approval of a new chemical entity, or NCE, which is a drug containing an active moiety that has not been approved by FDA in any other NDA. An "active moiety" is defined as the molecule responsible for the drug substance's physiological or pharmacologic action. During that five-year exclusivity period, the FDA cannot accept for filing (and therefore cannot approve) any ANDA seeking approval of a generic version of that drug or any 505(b)(2) NDA that relies on the FDA's approval of the drug, provided that that the FDA may accept an ANDA four years into the NCE exclusivity period if the ANDA applicant also files a paragraph IV certification.

Drugs and biologics can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

Hatch-Waxman Amendments and Exclusivity

Section 505 of the FDCA describes three types of marketing applications that may be submitted to the FDA to request marketing authorization for a new drug. A Section 505(b)(1) NDA is an application that contains full reports of investigations of safety and efficacy. A 505(b)(2) NDA is an application that contains full reports of investigations of safety and efficacy but where at least some of the information required for approval comes from investigations that were not conducted by or for the applicant and for which the applicant has not obtained a right of reference or use from the person by or for whom the investigations were conducted. This regulatory pathway enables the applicant to rely, in part, on the FDA's prior findings of safety and efficacy for an existing product, or published literature, in support of its application. Section 505(j) establishes an abbreviated approval process for a generic version of approved drug products through the submission of an Abbreviated New Drug Application ("ANDA"). An ANDA provides for marketing of a generic drug product that has the same active ingredients, dosage form, strength, route of administration, labeling, performance characteristics and intended use, among other things, to a previously approved product. ANDAs are termed "abbreviated" because they are generally not required to include preclinical (animal) and clinical (human) data to establish safety and efficacy. Instead, generic applicants must scientifically demonstrate that their product is bioequivalent to, or performs in the same manner as, the innovator drug through in vitro, in vivo or other testing. The generic version must deliver the same amount of active ingredient(s) in the same amount of time as the innovator drug and can often be substituted by pharmacists under prescriptions written for the reference listed drug. In seeking approval for a drug through an NDA, applicants are required to list with the FDA each patent with claims that cover the applicant's drug or a method of using the drug. Upon approval of a drug, each of the patents listed in the application for the drug is then published in the FDA's Approved Drug Products with Therapeutic

Equivalence Evaluations, commonly known as the Orange Book. Drugs listed in the Orange Book can, in turn, be cited by potential competitors in support of approval of an ANDA or 505(b)(2) NDA.

Upon submission of an ANDA or a 505(b)(2) NDA, an applicant must certify to the FDA that (i) no patent information on the drug product that is the subject of the application has been submitted to the FDA; (ii) such patent has expired; (iii) the date on which such patent expires; or (iv) such patent is invalid or will not be infringed upon by the manufacture, use or sale of the drug product for which the application is submitted. Generally, the ANDA or 505(b)(2) NDA cannot be approved until all listed patents have expired, except where the ANDA or 505(b)(2) NDA applicant challenges a listed patent through the last type of certification, also known as a paragraph IV certification. If the applicant does not challenge the listed patents, or indicates that it is not seeking approval of a patented method of use, the ANDA or 505(b)(2) NDA application will not be approved until all of the listed patents claiming the referenced product have expired.

Federal and State Fraud and Abuse, Data Privacy and Security, and Transparency Laws and Regulations

In addition to FDA restrictions on marketing of pharmaceutical products, federal and state healthcare laws and regulations restrict business practices in the biopharmaceutical industry. These laws may impact, among other things, our current and future business operations, including our clinical research activities, and proposed sales, marketing and education programs and constrain the business or financial arrangements and relationships with healthcare providers and other parties through which we market, sell and distribute our products for which we obtain marketing approval. These laws include anti-kickback and false claims laws and regulations, data privacy and security, and transparency laws and regulations, including, without limitation, those laws described below.

The U.S. federal Anti-Kickback Statute prohibits any person or entity from, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce or in return for purchasing, leasing, ordering or arranging for or recommending the purchase, lease or order of any item or service reimbursable under Medicare, Medicaid or other federal healthcare programs. The term "remuneration" has been broadly interpreted to include anything of value. The U.S. federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers and formulary managers on the other. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the statute has been violated.

A person or entity does not need to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the U.S. federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act or the civil monetary penalties laws.

Federal civil and criminal false claims laws, including the federal civil False Claims Act, which can be enforced by individuals through civil whistleblower and qui tam actions, and civil monetary penalties laws, prohibit any person or entity from, among other things, knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. A claim includes "any request or demand" for money or property presented to the U.S. government. Several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies' marketing of products for unapproved, and thus non-reimbursable, uses.

The federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA") created additional federal criminal statutes that prohibit, among other things, knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Also, many states have similar fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

In addition, we may be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act ("HITECH"), and their respective implementing regulations, impose specified requirements on certain types of individuals and entities relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's security standards directly applicable to "business associates," defined as independent contractors or agents of covered entities, which include certain healthcare providers, healthcare clearinghouses and health plans, that create, receive, maintain or transmit individually identifiable health information in connection with providing a service for or on behalf of a covered entity. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce HIPAA and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which are not pre-empted by HIPAA, differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services ("CMS"), information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists, and chiropractors) other healthcare professionals (such as physician assistants and nurse practitioners), and teaching hospitals, and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians and their immediate family members.

We may also be subject to state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers, marketing expenditures or drug pricing, and state and local laws that require the registration of pharmaceutical sales representatives.

Because of the breadth of these laws and the narrowness of available statutory exceptions and regulatory safe harbors, it is possible that some of our business activities could be subject to challenge under one or more of such laws. If our operations are found to be in violation of any of the federal and state laws described above or any other governmental regulations that apply to us, we may be subject to significant criminal, civil and administrative penalties including damages, fines, imprisonment, disgorgement, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm, diminished profits and future earnings, exclusion from participation in government healthcare programs and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that any of our products are sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws, implementation of corporate compliance programs, reporting of payments or transfers of value to healthcare professionals, and additional data privacy and security requirements.

Coverage and Reimbursement

The future commercial success of our product candidates, if approved, will depend in part on the extent to which third-party payors, such as governmental payor programs at the federal and state levels, including Medicare and Medicaid, private health insurers and other third-party payors, provide coverage of and establish adequate reimbursement levels for our product candidates. Third-party payors generally decide which products they will pay for and establish reimbursement levels for those products. In particular, in the United States, no uniform policy for coverage and reimbursement exists. Private health insurers and other third-party payors often provide coverage and reimbursement for products based on the level at which the government, through the Medicare program, provides coverage and reimbursement for such products, but also on their own methods and approval process apart from Medicare determinations. Therefore, coverage and reimbursement can differ significantly from payor to payor.

In the United States, the European Union ("EU"), and other potentially significant markets for our product candidates, government authorities and third-party payors are increasingly attempting to limit or regulate the price of products, particularly for new and innovative products, which often has resulted in average selling prices lower than they would

otherwise be. Further, the increased emphasis on managed healthcare in the United States and on country and regional pricing and reimbursement controls in the EU will put additional pressure on product pricing, reimbursement and usage. These pressures can arise from rules and practices of managed care groups, judicial decisions and laws and regulations related to Medicare, Medicaid and healthcare reform, pharmaceutical coverage and reimbursement policies and pricing in general.

Third-party payors are increasingly imposing additional requirements and restrictions on coverage and limiting reimbursement levels for products. For example, federal and state governments reimburse products at varying rates generally below average wholesale price. These restrictions and limitations influence the purchase of products. Third-party payors may limit coverage to specific products on an approved list, or formulary, which might not include all of the FDA-approved products for a particular indication. Similarly, because certain of our product candidates are physician-administered, separate reimbursement for the product itself may or may not be available. Instead, the administering physician may only be reimbursed for providing the treatment or procedure in which our product is used. Third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of products, in addition to their safety and efficacy. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of our product candidates, in addition to the costs required to obtain the FDA approvals. Our product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Adequate third-party payor reimbursement may not be available to enable us to realize an appropriate return on our investment in product development. Legislative proposals to reform healthcare or reduce costs under government insurance programs may result in lower reimbursement for our product candidates, if approved, or exclusion of our product candidates from coverage and reimbursement. The cost containment measures that third-party payors and providers are instituting and any healthcare reform could significantly reduce our revenue from the sale of any approved product candidates.

Healthcare Reform

The United States and some foreign jurisdictions are considering enacting or have enacted a number of additional legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our product candidates profitably, if approved. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts, which include major legislative initiatives to reduce the cost of care through changes in the healthcare system, including limits on the pricing, coverage, and reimbursement of pharmaceutical and biopharmaceutical products, especially under government-funded healthcare programs, and increased governmental control of drug pricing.

There have been several U.S. government initiatives over the past few years to fund and incentivize certain comparative effectiveness research, including creation of the Patient-Centered Outcomes Research Institute under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "Affordable Care Act"). It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of our product candidates.

The Affordable Care Act became law in March 2010 and substantially changed the way healthcare is financed by third-party payors, and significantly impacts the U.S. pharmaceutical industry. Among other measures that may have an impact on our business, the Affordable Care Act established an annual, nondeductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents; a new Medicare Part D coverage gap discount program; and a new formula that increased the rebates a manufacturer must pay under the Medicaid Drug Rebate Program. Additionally, the Affordable Care Act extended manufacturers' Medicaid rebate liability, expands eligibility criteria for Medicaid programs, and expanded entities eligible for discounts under the Public Health Service Act. At this time, we are unsure of the full impact that the Affordable Care Act will have on our business.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the Affordable Care Act, as well as efforts by the Trump administration to repeal or replace certain aspects of the Affordable Care Act. President Trump has signed Executive Orders and other directives designed to delay the implementation of certain Affordable Care Act provisions or otherwise circumvent requirements for health insurance mandated by the Affordable Care Act. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the Affordable Care Act. While Congress has not passed comprehensive repeal legislation, several bills

affecting the implementation of certain taxes under the Affordable Care Act have been signed into law. The Tax Cuts and Jobs Act of 2017 (“Tax Act”), includes a provision that repealed, effective January 1, 2019, the tax-based shared responsibility payment imposed by the Affordable Care Act on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the “individual mandate.” In addition, the 2020 federal spending package permanently eliminated, effective January 1, 2020, the Affordable Care Act’s mandated medical device tax and “Cadillac” tax on high-cost employer-sponsored health coverage and, effective January 1, 2021, also eliminates the health insurer tax. The Bipartisan Budget Act of 2018 ("BBA") among other things, amended the Affordable Care Act, effective January 1, 2019, to increase from 50% to 70% the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans, commonly referred to as the “donut hole.” On June 17, 2021 the U.S. Supreme Court dismissed a challenge on procedural grounds that argued the Affordable Care Act is unconstitutional in its entirety because the “individual mandate” was repealed by Congress. Thus, the Affordable Care Act will remain in effect in its current form. Prior to the U.S. Supreme Court ruling, on January 28, 2021, President Biden issued an executive order that initiated a special enrollment period for purposes of obtaining health insurance coverage through the Affordable Care Act marketplace. The executive order also instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the Affordable Care Act. It is possible that the Affordable Care Act will be subject to judicial or Congressional challenges in the future. It is unclear how such challenges and the healthcare reform measures of the Biden Administration will impact the Affordable Care Act.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, as amended, was signed into law which, among other things, included aggregate reductions to Medicare payments to providers of 2% per fiscal year, which began in 2013 and, following passage of subsequent legislation, including the BBA and the Infrastructure Investment and Jobs Act, will continue through 2031 unless additional Congressional action is taken. However, COVID-19 Relief legislation suspended the 2% Medicare sequester from May 1, 2020 through March 31, 2022. Under current legislation, the actual reduction in Medicare payments with vary from 1% in 2022 to up to 3% in the final fiscal year of this sequester. In January 2013, the American Taxpayer Relief Act of 2012 was enacted which, among other things, reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Further, there has been increasing legislative and enforcement interest in the United States with respect to drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the federal level, on July 24, 2020 and September 13, 2020, the Trump administration announced several executive orders related to prescription drug pricing that seek to implement several of the administration's proposals. As a result, the FDA concurrently released a final rule and guidance in September 2020 providing pathways for states to build and submit importation plans for drugs from Canada. In addition, on November 20, 2020, CMS issued an interim final rule implementing President Trump’s Most Favored Nation executive order, which would tie Medicare Part B payments for certain physician-administered drugs to the lowest price paid in other economically advanced countries, effective January 1, 2021. As a result of litigation challenging the Most Favored Nation model, on December 27, 2021, CMS published a final rule that rescinds the Most Favored Nation model interim final rule. In July 2021, the Biden administration released an executive order, “Promoting Competition in the American Economy,” with multiple provisions aimed at prescription drugs. In response to Biden’s executive order, on September 9, 2021, the U.S. Department of Health and Human Services (“HHS”) released a Comprehensive Plan for Addressing High Drug Prices that outlines principles for drug pricing reform and sets out a variety of potential legislative policies that Congress could pursue as well as potential administrative actions HHS can take to advance these principles. No legislation or administrative actions have been finalized to implement these principles. It is unclear whether these or similar policy initiatives will be implemented in the future. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine which drugs and suppliers will be included in their healthcare programs. Furthermore, there has been increased interest by third party payors and governmental authorities in reference pricing systems and

publication of discounts and list prices. These measures could reduce future demand for our products or put pressure on our pricing. It is possible that additional governmental action is taken in response to the COVID-19 pandemic.

Foreign Regulation

In order to market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of our product candidates. Whether or not we obtain FDA approval for a drug, we would need to obtain the necessary approvals by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the drug in those countries. The approval process varies from country to country and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others.

Further, some countries outside of the United States, including the EU member states, Switzerland and the United Kingdom, have also adopted data protection laws and regulations, which impose significant compliance obligations. In the EU, the collection and use of personal health data is governed by the provisions of the General Data Protection Regulation ("GDPR"). The GDPR became effective on May 25, 2018, repealing its predecessor directive and increasing responsibility and liability of pharmaceutical companies in relation to the processing of personal data of EU subjects. The GDPR, together with the national legislation of the EU member states governing the processing of personal data, impose strict obligations and restrictions on the ability to process personal data, including health data from clinical trials and adverse event reporting. In particular, these obligations and restrictions concern potentially burdensome documentation requirements, granting certain rights to individuals to control how we collect, use, disclose, retain and process information about them, the information provided to the individuals, the transfer of personal data out of the EU, security breach notifications, and security and confidentiality of the personal data. The processing of sensitive personal data, such as physical health condition, may impose heightened compliance burdens under the GDPR and is a topic of active interest among foreign regulators. In addition, the GDPR provides for more robust regulatory enforcement and fines of up to €20 million or 4% of the annual global revenue of the noncompliant company, whichever is greater. Data protection authorities from the different EU member states may interpret the GDPR and national laws differently and impose additional requirements, which add to the complexity of processing personal data in the EU. Guidance on implementation and compliance practices are often updated or otherwise revised.

Subsidiaries

The Company has two wholly owned subsidiaries, Suzhou Neuralstem Biopharmaceutical Co., Ltd. ("Suzhou"), organized under the laws of the People's Republic of China, and LBS. Suzhou was established by Seneca to sponsor the non-GDP Phase 2 clinical trial of NSI-566 that was conducted between 2013 and 2016 in Beijing, China. As of December 31, 2022, Suzhou has limited operations and exists for the sole purpose of conducting observational follow-up for a small group of remaining patients from the completed clinical trial, which it does through the engagement of a consultant. Suzhou has no employees or other operations. The Company's other subsidiary is Leading Biosciences, Inc. which is the operating entity through which we are developing of therapeutic products.

Contingent Value Right

Immediately prior to the closing of the Merger, Seneca issued each share of its common stock held by Seneca stockholders of record, one contingent value right ("CVR"). The CVR entitled the holder (the "CVR Holder") to receive, pro rata with the other CVR Holders, 80% of the net proceeds, if any and subject to certain minimum distribution limitations ("CVR Payment Amount"), received from the sale or licensing of the intellectual property owned, licensed or controlled by Seneca immediately prior to the closing of the Merger (the "Legacy Technology"); provided however that the CVR Holders are only entitled to receive such CVR Payment Amount if the sale or licensing of such Legacy Technology occurred on or before October 27, 2022 ("Legacy Monetization"). Pursuant to the terms of the CVR agreement ("CVR Agreement"), CVR Holders are only entitled to receive CVR Payment Amounts received within 48-months following the closing of the Merger. The CVR also provides that no distributions will be made to the CVR Holders in the event such distribution is less than $300,000.

As discussed below, with respect to the Legacy Technology, during the CVR Legacy Monetization period the Company entered into: (i) an asset transfer agreement ("ATA") related to NSI-189, and (ii) a license related to NSI-532.IGF-1, (collectively, NSI-189 and NSI-532.IGF-1 are referred to as the "Monetized Assets"). Based upon the net consideration received from the Monetized Assets, and after deducting the costs and expenses required to maintain the Legacy Assets, including patent costs, the amount attributed to Monetized Assets is less than the minimum distribution amount of $300,000. Accordingly, if no additional consideration is received with respect to the Monetized Assets, the CVR Holders will not receive any distributions and the CVR will expire worthless. If the Company does receive additional consideration from the Monetized Assets, the costs associated with the administration of the CVR could result in the distributable amount being less than the minimum and accordingly, no distribution would be made.

NSI-189 – Exclusive License and Subsequent Exercise of Purchase Option

As previously disclosed, on December 16, 2020, Seneca exclusively licensed certain patents and technologies, including a sublicense covering a synthetic intermediate, of the Company's NSI-189 assets ("189 License"), along with a purchase option through December 16, 2023 ("Purchase Option"). On October 22, 2021, Alto Neuroscience agreed to terms of an early exercise of the Purchase Option under the 189 License and entered into an ATA. Alto Neuroscience is a U.S. based private biopharmaceutical company focused on precision-medicine for central nervous system disorders, including depression, using artificial intelligence-based brain biomarkers.

In connection with the ATA, the Company received gross proceeds of $0.4 million. Pursuant to the terms of the CVR Agreement, no distribution is required to be made to the holders of the CVR if the CVR Payment Amount would be less than $0.5 million or less than $0.3 million with respect to the final CVR Payment Amount. In accordance with the terms of the CVR Agreement, the net proceeds from the sale of the NSI-189 assets, less any applicable transaction costs and expenses, were deposited into the CVR escrow to be used to pay costs and expenses associated with the monetization of our other Legacy Technologies, which may include but are not limited to: financial advisory and consulting fees, legal fees, and any other fees associated with the monetization. There can be no assurance that CVR holders will receive CVR Payment Amounts from the sale of the NSI-189 assets.

NSI-532.IGF-1

On October 27, 2022, the Company entered an agreement to license NSI-532.IGF-1 to the Regents of the University of Michigan ("University of Michigan") for maintaining NSI-532.IGF-1 cell lines, continued development, maintaining patent protection, and seeking licensees. The Company received no upfront fees for the license. NSI-532.IGF-1 is a pre-clinical cell therapy being investigated as a potential therapy for prevention and treatment of Alzheimer's disease. The University of Michigan shall bear 100% of the costs for patent filing, prosecution, maintenance, and enforcement of the patent rights. The Company will receive 50% of net revenues received by the University of Michigan from the licensing of patent rights through the last-to-expire patent in patent rights, unless otherwise earlier terminated, less all reasonable and actual out-of-pocket costs incurred in the litigation of patent rights. There can be no assurance that NSI-532.IGF-1 will ever be successfully monetized or that CVR holders will receive CVR Payment Amounts from the sale of the NSI-532.IGF-1 assets.

NSI-566

In September of 2021, the Company engaged a financial advisor to undertake a process to formally market NSI-566. The financial advisor used both subscription databases and public databases to identify potential acquirers and/or licensees. During the process, 256 companies were identified as potential acquirers and were contacted. The outreach process included communication through multiple mediums included emailing multiple targeted people within a company, calls to such people within a company, introductions through referral sources to targeted people within a company, and online submissions. Outreach targets were contacted contact multiple times. Of the 256 companies contacted, 45 companies requested non-confidential slide decks. In total, 116 companies declined or were eliminated after multiple rounds of follow-up after sharing materials. Of the remaining companies, five entered into non-disclosure agreements and were granted access to the virtual data room. The Company's advisors and representatives had follow-up calls to discuss the confidential information with four of the five companies. None of the target companies submitted any offers. The CVR Representative did receive one unsolicited offer consisting of an upfront payment of $125,000 and a possible milestone payment of: (i) up to $6 million upon market approval in the U.S. or Europe or (ii) 30% of the consideration received by the purchaser upon the sale or licensing of NSI-566. In reviewing

the proposal, the CVR Representative and its advisors considered the costs and expenses associated with such transfer, including legal and advisory fees as well as costs and expenses associated with the transfer of the Company's wholly owned Chinese subsidiary that owns certain data which the CVR Representative concluded would be required to be transferred. After taking into account these costs and expenses, the CVR Representative provided a counter-offer requiring a $1.0 million upfront payment. The prospective acquirer did not respond. As the CVR Legacy Monetization period has ended, CVR Holders will not be entitled to the proceeds, if any, of the sale or licensing of NSI-566. As of the date of this Annual Report on Form 10-K, the Company has ceased marketing NSI-566 and has terminated the engagement with the advisor.

Human Capital Resources

Overview

As of December 31, 2022, we had 12 full-time employees and no part-time employees. Of these full-time employees, six employees are engaged in primarily research and development activities and five employees are primarily engaged in finance, corporate strategy and business development, human resources, and other general administrative functions. We engage a number of regular consultants to assist with our regulatory and clinical operations, and human resources and information technology functions, including our Chief Medical Officer, who joined the Company in November of 2022 as a part-time consultant. We have no collective bargaining agreements with our employees and we have not experienced any work stoppages. On September 9, 2022, the Company committed to a cost-reduction plan. This cost-reduction plan consisted of an approximately 20% reduction in the workforce to better align the Company's resources with its clinical studies.

We consider our relations with our employees to be good. We are invested in the development of our employees, including performance management and mentorship programs. Subsequent to the Merger in 2021, we retained the majority of the legacy LBS employees and executive management team. Effective October 11, 2022, the Company's former Chief Executive Officer and member of the Company's Board resigned as both Chief Executive Officer and as a member of the Company's Board. On that date, the Company's Chief Financial Officer, J.D. Finley, was appointed by the Company's Board to serve as the Company's Chief Executive Officer (principal executive officer), on an interim basis. Mr. Finley continues to serve as the Company's Chief Financial Officer and principal accounting officer. In January 2023, Mr. Finley was appointed as a member of the Company's Board. Also on October 11, 2022, the Company terminated the employment of its former Chief Medical Officer.

Compensation, Benefits, and Professional Development

Our compensation programs, including our equity incentive programs, are designed to align our employees' interests with the drivers of growth and stockholder returns by supporting achievement of our primary business goals. Our goal is to attract and retain employees whose talents, expertise, leadership, and contributions are expected to support and facilitate growth and drive long-term stockholder value. Consequently, we provide employee wages that we believe are competitive within our industry, and we regularly evaluate the effectiveness of our compensation and benefit programs against industry benchmarks. We seek to align our employees' interests with those of stockholders by linking annual changes in compensation to overall company performance, as well as each individual's contribution to the results achieved. The emphasis on overall company performance is intended to align the employee's financial interests with the interests of shareholders. We are also committed to providing comprehensive benefit options and it is our intention to offer benefits that will allow our employees and their families to live healthier and more secure lives. All employees are eligible for medical, dental, and vision insurance, paid and unpaid leaves, group life and personal accident insurance coverage as well as the option to participate in the Company's 401(k) plan and supplemental group life and short-term disability coverage.

Corporate Information

The registrant was originally incorporated in 2001 in the State of Delaware under the name Neuralstem, Inc. In October 2019, Neuralstem, Inc. changed its name to Seneca Biopharma, Inc. In April 2021, we effected the Merger, whereby LBS became a wholly owned subsidiary of Seneca. In April 2021, we changed our name from Seneca Biopharma, Inc. to Palisade Bio, Inc. Our principal executive offices are located at 7750 El Camino Real, Suite 2A, Carlsbad, California 92009, our telephone number is (858) 704-4900 and our website address is www.palisadebio.com.

The information on our website is not incorporated by reference in this annual report on Form 10-K or in any other filings we make with the Securities and Exchange Commission ("SEC"). We make available on or through our website certain reports and amendments to those reports that we file with or furnish to the SEC in accordance with the Securities Exchange Act of 1934, as amended. These include our annual reports on Form 10-K, our quarterly reports on Form 10-Q, and our current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. We make this information available on or through our website free of charge as soon as reasonably practicable after we electronically file the information with, or furnish it to, the SEC.

Item 1A. Risk Factors.

RISK FACTORS

You should consider carefully the risks described below, as well as the other information in this Annual Report on Form 10-K, before deciding whether to purchase, hold or sell shares of our common stock. The occurrence of any of the following risks could harm our business, financial condition, results of operations and/or growth prospects or cause our actual results to differ materially from those contained in forward-looking statements we have made in this report and those we may make from time to time. You should consider all of the factors described as well as the other information in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" when evaluating our business. If any of the following risks occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations.

Risks Related to the Company's Development, Commercialization and Regulatory Approval of the Company's Investigational Therapies

The Company's business depends on the successful clinical development, regulatory approval and commercialization of LB1148.

The success of the Company's current business depends on the successful development, regulatory approval and commercialization of LB1148, as well as the Company's ability to secure sufficient capital to fund its business operations. The clinical and commercial success of LB1148 depends on a number of factors, including the following:

- successful completion of required clinical trials, including those trials not yet initiated, which may be significantly slower or costlier than the Company currently anticipates;
- the Company's ability to develop trial designs and protocols;
- whether the FDA or similar foreign regulatory agencies will require the Company to conduct additional studies beyond those currently planned;
- approval by the FDA to commence the marketing of LB1148;
- the Company and third-party contractors, if applicable, achieving and maintaining compliance with their contractual obligations and with applicable regulatory requirements;
- the ability of the Company's contract manufacturers to manufacture sufficient supply of LB1148 to meet the required clinical trial and commercial supplies;
- the ability of the Company's contract manufacturers to remain in good standing with regulatory agencies and to develop, validate and maintain commercially viable manufacturing facilities and processes that are compliant with cGMP;
- the Company's ability to obtain favorable labeling for LB1148 through regulators that allows for successful commercialization;

- acceptance by physicians, insurers and payors, and patients of the quality, benefits, safety and efficacy of LB1148, if approved, including relative to alternative and competing treatments;
- ability to price LB1148 to recover the Company's development costs and generate a satisfactory profit margin; and
- the Company's ability and its partners' ability to establish and enforce intellectual property rights in and to LB1148.

If the Company does not achieve one or more of these factors, many of which are beyond its control, in a timely manner or at all, the Company could experience significant delays or an inability to obtain regulatory approvals or commercialize LB1148. Such delays may result in increased costs and the failure to complete such trial. Even if regulatory approvals are obtained, the Company may never be able to successfully commercialize LB1148. Accordingly, the Company cannot make assurances that it will ever be able to generate sufficient revenue through the sale of LB1148, or any other future product candidates, if approved, to internally fund its business.

There are no FDA-approved therapies for LB1148's lead indication which makes it difficult to predict the timing, costs and regulatory approval path of LB1148.

The Company's lead indication for LB1148 is the reduction or elimination of postoperative intra-abdominal adhesions. While there are multiple medical devices approved for the reduction or elimination of postoperative intra-abdominal adhesions, there are no approved drugs for such indication. The regulatory approval process for novel product candidates such as LB1148 can be more uncertain, expensive, and take longer than for other, better known or extensively studied therapeutic approaches.

The development and commercialization strategy for the Company's lead product candidate LB1148 depends, in part, on published scientific literature and the FDA's prior findings regarding the safety and efficacy of tranexamic acid. If the Company is not able to pursue this strategy, it may be delayed in receiving regulatory approval.

The Hatch-Waxman Act added Section 505(b)(2) to the U.S. Federal Food, Drug, and Cosmetic Act ("FDCA"). Section 505(b)(2) permits the submission of an NDA where at least some of the information required for approval comes from investigations that were not conducted by or for the applicant and for which the applicant has not obtained a right of reference or use from the person by or for whom the investigations were conducted. The FDA interprets Section 505(b)(2) of the FDCA, for purposes of approving an NDA, to permit the applicant to rely, in part, upon published literature and/or the FDA's previous findings of safety and efficacy for an approved product. The FDA also requires companies to perform additional clinical trials or measurements to support any deviation from the previously approved product and to justify that it is scientifically appropriate to rely on the applicable published literature or referenced product, referred to as bridging. Although it is not required to, the FDA may approve the new product candidate for all or some of the indications for which the referenced product has been approved, as well as for any new indication sought by the Section 505(b)(2) applicant, if such approval is supported by study data. The labeling, however, may be required to include all or some of the limitations, contraindications, warnings or precautions or restrictions on use included in the reference product's labeling, including a boxed warning, or may require additional limitations, contraindications, warnings or precautions or restrictions on use.

The Company currently plans to pursue marketing approval for LB1148, in the U.S. through a 505(b)(2) NDA and will be completing bridging analyses prior to NDA submissions. If the FDA disagrees with the Company's conclusions regarding the appropriateness of its reliance on the FDA's prior findings of safety and efficacy for TXA or on published literature, or if the Company is not otherwise able to bridge to the listed drug or published literature to demonstrate that its reliance is scientifically appropriate, the Company could be required to conduct additional clinical trials or other studies to support its NDA, which could lead to unanticipated costs and delays or to the termination of the development program for LB1148. If the Company is unable to obtain approval for LB1148 through the 505(b)(2) NDA process, it may be required to pursue the more expensive and time consuming 505(b)(1) approval process, which consists of full reports of investigations of safety and effectiveness conducted by or on the behalf of the Company.

Notwithstanding the approval of a number of products by the FDA under Section 505(b)(2), pharmaceutical companies and others have objected to the FDA's interpretation of Section 505(b)(2). If the FDA's interpretation of Section

505(b)(2) is successfully challenged, the FDA may be required to change its policies and practices with respect to Section 505(b)(2) regulatory approvals, which could delay or even prevent the FDA from approving any NDA that the Company submits pursuant to the 505(b)(2) process. Even if the Company is allowed to pursue the 505(b)(2) regulatory pathway to FDA approval, there is no assurance it that the Company's product candidates will receive the requisite approvals for commercialization.

The Company may find it difficult to enroll patients in its clinical trials, which could delay or prevent it from proceeding with clinical trials of its product candidates.

The Company's inability to identify, qualify, and enroll patients in its clinical trials on a timely basis could result in the completion of the trials being delayed.

Patient enrollment and trial completion are affected by numerous additional factors, including the:

- process for identifying patients;
- design of the trial protocol;
- eligibility and exclusion criteria;
- perceived risks and benefits of the product candidate under study;
- availability of competing therapies and clinical trials;
- severity of the disease under investigation;
- proximity and availability of clinical trial sites for prospective patients;
- ability to obtain and maintain patient consent;
- risk that enrolled patients will drop out before completion of the trial;
- patient referral practices of physicians; and
- ability to monitor patients adequately during and after treatment.

If the Company has difficulty enrolling a sufficient number of subjects to conduct its clinical trials as planned, it may need to delay, limit or terminate ongoing or planned clinical trials, any of which would have an adverse effect on its business, financial condition, results of operations and prospects. For example, the Company has recently paused enrollment in its Phase 3 study for return of bowel function. As a result, there can be no assurances that the Company will be able to complete that clinical trial, if it chooses to resume the study, on either a timely basis, or at all.

Clinical drug development is very expensive, time-consuming and uncertain.

Clinical development new drug candidates is very expensive, time-consuming, difficult to design and implement, and the outcomes are inherently uncertain. Most product candidates that commence clinical trials are never approved by regulatory authorities for commercialization and of those that are approved many do not cover their costs of development. In addition, the Company, any partner with which it may in the future collaborate, the FDA, or other regulatory authorities, including state and local agencies and counterpart agencies in foreign countries, or institutional review boards ("IRB") at the Company's trial sites, may suspend, delay, require modifications to or terminate the Company's clinical trials at any time.

The Company expects that its operations and clinical trials will require substantially more capital than it currently has, and the Company cannot guarantee when or if it will be able to secure such additional funding.

The Company has historically funded its operations, including its past and present clinical trials, through the sale of its securities. Based on the Company's existing cash resources and its current or future plan of operations, the Company may not have adequate capital to complete its current clinical trials or fund operations. Moreover, the Company cannot

guarantee that its cash resources, even after giving effect to recent offerings, will be sufficient for it to complete enrolling patients in both clinical trials and provide for the Company's working capital needs. As a result, the Company may need to secure additional financing. If the Company is not able to obtain financing in the future or on acceptable terms, it may have to terminate or suspend one or both clinical trials early and/or curtail its operations.

The results of previous clinical trials may not be predictive of future results, and the results of the Company's current and planned clinical trials may not satisfy the requirements of the FDA or non-U.S. regulatory authorities.

The results from the prior preclinical studies and clinical trials of LB1148 may not necessarily be predictive of the results of future preclinical studies or clinical trials. Even if the Company is able to complete its planned clinical trials of its product candidates according to its current development timelines, the results from prior preclinical and clinical trials of its product candidates may not be replicated in these future trials. Many companies in the pharmaceutical and biotechnology industries (including those with greater resources and experience) have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development, and the Company cannot be certain that it will not face similar setbacks. These setbacks have been caused by, among other things, preclinical findings made while clinical trials were underway or safety or efficacy observations made in clinical trials, including previously unreported adverse events. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials nonetheless have failed to obtain FDA approval. If the Company fails to produce positive results in its clinical trials of any of its product candidates, the development timelines, regulatory approvals, and commercialization prospects for its product candidates, as well as the Company's business and financial prospects, would be adversely affected. Further, the Company's product candidates may not be approved even if they achieve their respective primary endpoints in Phase 3 registration studies. The FDA or non-U.S. regulatory authorities may disagree with the Company's trial designs or its interpretation of data from preclinical studies and clinical trials. The Company has taken the position that LB1148 has a single active ingredient, TXA. LB1148 also contains polyethylene glycol 3350 ("PEG"). Across different countries and different circumstances, PEG may be regulated as an inactive ingredient, a medical device, or an active ingredient. There is uncertainty about (1) whether regulatory agencies will classify LB1148 as a fixed-combination drug product and (2) consequential implications of, for example, FDA's fixed-combination drug product regulation concerning the evaluation of each active drug component's individual contribution to the overall treatment effect. The treatment of PEG and any regulatory requirements, if it is considered an active ingredient, may differ across regulatory authorities. If LB1148 is considered a fixed-combination drug product, then this may impact the design and overall number of required clinical trials as well as additional requirements for nonclinical studies. Even though we are proceeding with a clinical trial for LB1148 as a single active ingredient drug product, we may be required to conduct additional trials, which could include the use of a factorial design, and nonclinical studies if, for example, FDA (1) concludes that PEG is an active ingredient in LB1148 and (2) is unwilling to provide a waiver from meeting their fixed-combination drug product regulation/requirements. In addition, any of these regulatory authorities may change requirements for the approval of a product candidate even after reviewing and providing comments or advice on a protocol for a pivotal clinical trial that has the potential to result in approval by the FDA or another regulatory authority. Furthermore, any of these regulatory authorities may also approve the Company's product candidate for fewer or more limited indications than it requests or may grant approval contingent on the performance of costly post-marketing clinical trials.

If the clinical development of LB1148 is successful, the Company intends to eventually seek regulatory approvals of LB1148 initially in the U.S. and may seek approvals in other geographies. Before obtaining regulatory approvals for the commercial sale of any product candidate for any target indication, the Company must demonstrate to the FDA that the product candidate is safe and effective for use for the target indication. The Company cannot assure you that the FDA or non-U.S. regulatory authorities would consider its planned clinical trials to be sufficient to serve as the basis for approval of its product candidates for any indication. The FDA and non-U.S. regulatory authorities retain broad discretion in evaluating the results of the Company's clinical trials and in determining whether the results demonstrate that its product candidates are safe and effective.

The Company's product candidates may cause undesirable side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in post-approval regulatory action.

Unforeseen side effects from LB1148 could arise either during clinical development or, if approved, after it has been marketed. Undesirable side effects could cause the Company, any partners with which the Company may collaborate,

or regulatory authorities to interrupt, extend, modify, delay or halt clinical trials and could result in a more restrictive or narrower label or the delay or denial of regulatory approval by the FDA or comparable foreign authorities. Any of these occurrences may have an adverse material effect on the Company's business, financial condition, operating results and prospects.

Additionally, if the Company or others identify undesirable side effects, or other previously unknown problems, caused by a product after obtaining U.S. or foreign regulatory approval, a number of potentially negative consequences could result, including the FDA requiring the Company to recall the product, which could prevent the Company or its potential partners from achieving or maintaining market acceptance of the product and could substantially increase the costs of commercializing such product.

The Company may in the future conduct clinical trials for its product candidates outside the United States, and the FDA and applicable foreign regulatory authorities may not accept data from such trials.

The Company, as well as investigator sponsors, have conducted clinical trials, is conducting clinical trials, and may in the future choose to conduct one or more clinical trials outside of the U.S. Although the FDA or applicable foreign regulatory authority may accept data from clinical trials conducted outside the U.S. or the applicable jurisdiction, acceptance of such study data by the FDA or applicable foreign regulatory authority may be subject to certain conditions or exclusion. Where data from foreign clinical trials are intended to serve as the basis for marketing approval in the United States, the FDA will not approve the application on the basis of foreign data alone unless such data are applicable to the U.S. population and U.S. medical practice; the studies were performed by clinical investigators of recognized competence; and the data are considered valid without the need for an on-site inspection by the FDA or, if the FDA considers such an inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. Many foreign regulatory bodies have similar requirements. In addition, such foreign studies would be subject to the applicable local laws of the foreign jurisdictions where the studies are conducted. There can be no assurance the FDA or applicable foreign regulatory authority will accept data from trials conducted outside of the United States or the applicable home country. If the FDA or applicable foreign regulatory authority does not accept such data, it would likely result in the need for additional trials, which would be costly and time-consuming and delay aspects of the Company's business plan.

The Company may rely on third-party CROs and other third parties to conduct and oversee its clinical trials. If these third parties do not meet the Company's requirements or otherwise conduct the trials as required, the Company may not be able to satisfy its contractual obligations or obtain regulatory approval for, or commercialize, its product candidates.

The Company may rely on third-party CROs to conduct and oversee its LB1148 clinical trials and other aspects of product development. The Company also expects to rely on various medical institutions, clinical investigators and contract laboratories to conduct its trials in accordance with the Company's clinical protocols and all applicable regulatory requirements, including the FDA's regulations and good clinical practice ("GCP") requirements, which are an international standard meant to protect the rights and health of patients and to define the roles of clinical trial sponsors, administrators and monitors, and state regulations governing the handling, storage, security and recordkeeping for drug and biologic products. These CROs and other third parties are expected to play a significant role in the conduct of these trials and the subsequent collection and analysis of data from the clinical trials. The Company expects to rely heavily on these parties for the execution of its clinical trials and preclinical studies and will control only certain aspects of their activities. The Company and its CROs and other third-party contractors will be required to comply with GCP and good laboratory practice ("GLP") requirements, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities. Regulatory authorities enforce these GCP and GLP requirements through periodic inspections of trial sponsors, principal investigators and trial sites. If the Company or any of these third parties fail to comply with applicable GCP and GLP requirements, or reveal noncompliance from an audit or inspection, the clinical data generated in the Company's clinical trials may be deemed unreliable and the FDA or other regulatory authorities may require the Company to perform additional clinical trials before approving the Company's or the Company's partners' marketing applications. The Company cannot assure that upon inspection by a given regulatory authority, such regulatory authority will determine whether or not any of the Company's clinical or preclinical trials comply with applicable GCP and GLP requirements. In addition, the Company's clinical trials generally must be conducted with product produced under cGMP regulations. The

Company's failure to comply with these regulations and policies may require it to repeat clinical trials, which would be costly and delay the regulatory approval process.

If any of the Company's CROs or clinical trial sites terminate their involvement in one of the Company's clinical trials for any reason, the Company may not be able to enter into arrangements with alternative CROs or clinical trial sites or do so on commercially reasonable terms. In addition, if the Company's relationship with clinical trial sites is terminated, it may experience the loss of patient follow-up information unless the Company is able to transfer the care of those patients to another qualified clinical trial site. In addition, principal investigators for the Company's clinical trials may serve as scientific advisors or consultants to it from time to time and could receive cash or equity compensation in connection with such services. If these relationships and any related compensation result in perceived or actual conflicts of interest, the integrity of the data generated at the applicable clinical trial site may be questioned by the FDA.

Even if the Company receives marketing approval for LB1148, or any future product candidate, it may not be able to successfully commercialize its product candidates due to unfavorable pricing regulations or third-party coverage and reimbursement policies, which could make it difficult for the Company to sell its product candidates profitably.

Obtaining coverage and reimbursement approval for a product from a government or other third-party payor is a time consuming and costly process that could require the Company to provide supporting scientific, clinical and cost effectiveness data to the payor. There may be significant delays in obtaining such coverage and reimbursement for newly approved products, and coverage may be more limited than the purposes for which the product is approved by the FDA or comparable foreign regulatory authorities. Moreover, eligibility for coverage and reimbursement does not imply that a product will be paid for in all cases or at a rate that covers costs, including research, development, intellectual property, manufacture, sale and distribution expenses. Interim reimbursement levels for new products, if applicable, may also not be sufficient to cover costs and may not be made permanent. Reimbursement rates may vary according to the use of the product and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost products and may be incorporated into existing payments for other services. Net prices for products may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors, by any future laws limiting drug prices and by any future relaxation of laws that presently restrict imports of product from countries where they may be sold at lower prices than in the United States.

There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting reimbursement policies, but also have their own methods and approval process apart from Medicare coverage and reimbursement determinations.

Coverage and reimbursement by a third-party payor may depend upon a number of factors, including the third-party payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

The Company cannot be sure that coverage and reimbursement will be available for any product that it commercializes and, if coverage and reimbursement are available, what the level of reimbursement will be. Reimbursement may impact the demand for, and the price of, any product for which the Company obtains marketing approval. The Company's inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for any approved products that the Company develops could have a material adverse effect on its operating results, its ability to raise capital needed to commercialize products and its overall financial condition.

Even if a product candidate obtains regulatory approval, it may fail to achieve the broad degree of physician and patient adoption and use necessary for commercial success.

The commercial success of LB1148, if approved, will depend significantly on attaining broad adoption and use of the drug by physicians and patients. The degree and rate of physician and patient adoption of a product, if approved, will depend on a number of factors, including but not limited to:

- patient demand for approved products that treat the indication for which they are approved;
- the effectiveness of a product compared to other available therapies or treatment regimens;
- the availability of coverage and adequate reimbursement from managed care plans and other healthcare payors;
- the cost of treatment in relation to alternative treatments and willingness to pay on the part of patients;
- insurers' willingness to see the applicable indication as a disease worth treating;
- proper administration by physicians or patients;
- patient satisfaction with the results, administration and overall treatment experience;
- limitations or contraindications, warnings, precautions or approved indications for use different than those sought by the Company that are contained in the final FDA-approved labeling for the applicable product;
- any FDA requirement to undertake a risk evaluation and mitigation strategy;
- the effectiveness of the Company's sales, marketing, pricing, reimbursement and access, government affairs, and distribution efforts;
- adverse publicity about a product or favorable publicity about competitive products;
- new government regulations and programs, including price controls and/or limits or prohibitions on ways to commercialize drugs, such as increased scrutiny on direct-to-consumer advertising of pharmaceuticals; and
- potential product liability claims or other product-related litigation.

If LB1148 is approved for use but fails to achieve the broad degree of physician and patient adoption necessary for commercial success, the Company's operating results and financial condition will be adversely affected, which may delay, prevent or limit its ability to generate revenue and continue its business.

The Company's product candidates, if approved, may face significant competition and their failure to compete effectively may prevent them from achieving significant market penetration.

The pharmaceutical industry is characterized by rapidly advancing technologies, intense competition, less effective patent terms, and a strong emphasis on developing newer, fast-to-market proprietary therapeutics. Numerous companies are engaged in the development, patenting, manufacturing and marketing of healthcare products competitive with those that the Company is developing, including LB1148. The Company will face competition from a number of sources, such as pharmaceutical companies, generic drug companies, biotechnology companies, medical device companies and academic and research institutions, many of which have greater financial resources, marketing capabilities, sales forces, manufacturing capabilities, research and development capabilities, regulatory expertise, clinical trial expertise, intellectual property portfolios, more international reach, experience in obtaining patents and regulatory approvals for product candidates and other resources than the Company. Some of the companies that offer competing products also have a broad range of other product offerings, large direct sales forces and long-term customer relationships with the Company's target physicians, which could inhibit the Company's market penetration efforts. The inability of the Company's products, if approved, to effectively compete with such products could adversely affect the Company's results and operations.

Any adverse developments related to LB1148 that occur during the clinical trials being conducted by Newsoara could affect the Company's ability to obtain regulatory approval or commercialize LB1148.

Newsoara has the rights to develop and commercialize LB1148 in China for return of bowel function, reduction of adhesions, and sepsis. If serious adverse events occur with respect to Newsoara's clinical trials related to LB1148, the FDA and other regulatory authorities may delay, limit or deny approval of LB1148 or require the Company to conduct additional clinical trials as a condition to marketing approval, which would increase our costs and delay our ability to seek marketing approval. If the Company receives FDA approval for LB1148 and a new and serious safety issue is identified in connection with Newsora's clinical trials related to LB1148, the FDA and other regulatory authorities may withdraw their approval of the product or otherwise restrict the Company's ability to market and sell LB1148. In addition, treating physicians may be less willing to administer the Company's product due to concerns over such adverse events, which would limit the Company's ability to commercialize LB1148 and would adversely affect the Company's prospects and business.

Risks Related to the Company's Business

The Company has a very limited operating history and has never generated any revenues from product sales.

The Company is a clinical-stage biopharmaceutical company with a very limited operating history that may make it difficult to evaluate the success of its business to date and to assess its future viability. The Company was initially formed in 2001 and its operations, to date, have been limited to business planning, raising capital, developing LB1148 and other research and development. The Company has not yet demonstrated an ability to successfully complete any clinical trials and has never completed the development of any product candidate, nor has it ever generated any revenue from product sales or otherwise. Consequently, the Company has no meaningful operations upon which to evaluate its business, and predictions about its future success or viability may not be as accurate as they could be if it had a longer operating history or a history of successfully developing and commercializing biopharmaceutical products.

The Company's common stock could be delisted from the Nasdaq Capital Market if the Company is unable to maintain compliance with Nasdaq's continued listing standards.

The Company's common stock is listed on the Nasdaq Capital Market. There are a number of continued listing requirements that the Company must satisfy in order to maintain its listing on The Nasdaq Capital Market, including the requirement to maintain a minimum bid price of at least $1.00 (the "Bid Price Rule"). Although the Company is currently in compliance with the Bid Price Rule, the Company has been unable to comply with this rule in the past and for periods in 2022 the Company's continued listing on the Nasdaq Capital Market required the grant of a grace period from Nasdaq and the implementation of a 1-for-50 reverse stock split. If the Company fails to comply with the Bid Price Rule in the future, or any of the other continued listing requirements, there can be no assurance that the Company will be able to regain compliance. The delisting of the Company's common stock would likely adversely affect the market liquidity and market price of the Company's common stock and the Company's ability to obtain financing for the continuation of the Company operations and/or result in the loss of confidence by investors.

If the Company is unable to successfully retain and integrate a new management team, the Company's business could be adversely impacted.

Effective October 11, 2022, the Company appointed its Chief Financial Officer, J.D. Finley, as its Interim Chief Executive Officer. Also effective October 11, 2022, Dr. Hallam and Dr. Dawson, the Company's former CEO and CMO respectively, ceased providing services to the Company. On November 18, 2022 the Company announced the appointment of Herbert B. Slade, MD, FAAAAI as Chief Medical Officer of the Company. On February 8, 2023, the Company announced it had promoted Robert McRae to Chief Operating Officer. The Company's success depends largely on the development and execution of its business strategy by its senior management team. The Company currently has a limited executive team with limited experience of working together. Additionally, the loss of any members or key personnel would likely harm the Company's ability to implement its business strategy and respond to the rapidly changing market conditions in which it operates. There can be no assurance that the Company will be able to retain the current members of its management team. Moreover, there may be a limited number of persons with the requisite skills to serve in these positions, and the Company cannot assure you that it will be able to identify, employ or retain such qualified personnel on acceptable terms, if at all. The Company cannot assure you that management

will succeed in working together as a team. In the event that the Company is unable to retain or integrate its management team, its business, prospects, and operations could be adversely impacted.

The Company currently has no products approved for sale, and it may never obtain regulatory approval to commercialize any of its product candidates.

The research, testing, manufacturing, safety surveillance, efficacy, quality control, recordkeeping, labeling, packaging, storage, approval, sale, marketing, distribution, import, export and reporting of safety and other post-market information related to its biopharmaceutical products are subject to extensive regulation by the FDA and other regulatory authorities in the U.S. and in foreign countries, and such regulations differ from country to country and frequently are revised.

Even after the Company achieves U.S. regulatory approval for a product candidate, if at all, the Company will be subject to continued regulatory review and compliance obligations. A product candidate's approval may contain requirements for potentially costly post-approval studies and surveillance, including Phase 4 clinical trials, to monitor the safety and efficacy of the product. The Company also will be subject to ongoing FDA obligations and continued regulatory review with respect to, among other things, the manufacturing, processing, labeling, packaging, distribution, pharmacovigilance and adverse event reporting, storage, advertising, promotion and recordkeeping for the Company's product candidates. These requirements include submissions of safety and other post-marketing information and reports, registration, continued compliance with cGMP requirements and with the FDA's GCP requirements and GLP requirements, which are regulations and guidelines enforced by the FDA for all of the Company's product candidates in clinical and preclinical development, and for any clinical trials that it conducts post-approval, as well as continued compliance with the FDA's laws governing commercialization of the approved product, including but not limited to the FDA's Office of Prescription Drug Promotion ("OPDP") regulation of promotional activities, fraud and abuse, product sampling, scientific speaker engagements and activities, formulary interactions as well as interactions with healthcare practitioners. To the extent that a product candidate is approved for sale in other countries, the Company may be subject to similar or more onerous (i.e., prohibition on direct-to-consumer advertising that does not exist in the U.S.) restrictions and requirements imposed by laws and government regulators in those countries.

In addition, manufacturers of drug and biologic products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP regulations. If the Company or a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the manufacturing, processing, distribution or storage facility where, or processes by which, the product is made, a regulatory agency may impose restrictions on that product or the Company, including requesting that the Company initiate a product recall, or requiring notice to physicians or the public, withdrawal of the product from the market, or suspension of manufacturing.

If the Company, its product candidates or the manufacturing facilities for its product candidates fail to comply with applicable regulatory requirements, a regulatory agency may:

- impose restrictions on the sale, marketing or manufacturing of the products, amend, suspend or withdraw product approvals or revoke necessary licenses;
- mandate modifications to promotional and other product-specific materials or require the Company to provide corrective information to healthcare practitioners or in its advertising;
- require the Company or its partners to enter into a consent decree, which can include imposition of various fines, reimbursements for inspection costs, required due dates for specific actions, penalties for noncompliance and, in extreme cases, require an independent compliance monitor to oversee the Company's activities;
- issue warning letters, bring enforcement actions, initiate surprise inspections, issue show cause notices or untitled letters describing alleged violations, which may be publicly available;
- commence criminal investigations and prosecutions;
- impose injunctions, suspensions or revocations of necessary approvals or other licenses;

- impose other civil or criminal penalties;
- suspend any ongoing clinical trials;
- place restrictions on the kind of promotional activities that can be done;
- delay or refuse to approve pending applications or supplements to approved applications filed by the Company or its potential partners;
- refuse to permit drugs or precursor chemicals to be imported or exported to or from the United States;
- suspend or impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products or require the Company or its partners to initiate a product recall.

The regulations, policies or guidance of the FDA and other applicable government agencies may change, and new or additional statutes or government regulations may be enacted, including at the state and local levels, which can differ by geography and could prevent or delay regulatory approval of the Company's product candidates or further restrict or regulate post-approval activities. The Company cannot predict the likelihood, nature or extent of adverse government regulations that may arise from future legislation or administrative action, either in the United States or abroad. If the Company is not able to achieve and maintain regulatory compliance, it may not be permitted to commercialize its product candidates, which would adversely affect its ability to generate revenue and achieve or maintain profitability.

The Company currently has no marketing capabilities and no sales organization. If the Company is unable to establish sales and marketing capabilities on its own or through third parties, the Company will be unable to successfully commercialize its product candidates, if approved, or generate product revenue.

The Company currently has no marketing capabilities and no sales organization. To commercialize the Company's product candidates, if approved, in the U.S. and other jurisdictions, the Company must build its marketing, sales, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services, and the Company may not be successful in doing so. Although the Company's employees, consultants, contractors, and partners have experience in the marketing, sale and distribution of pharmaceutical products, and business development activities involving external alliances, from prior employment at other companies, the Company as a company has no prior experience in the marketing, sale and distribution of pharmaceutical products, and there are significant risks involved in building and managing a sales organization, including its ability to hire, retain and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of the Company's internal sales, marketing, distribution and pricing/reimbursement/access capabilities would impact adversely the commercialization of these products.

The Company may face product liability exposure, and if successful claims are brought against it, the Company may incur substantial liability if its insurance coverage for those claims is inadequate.

The Company faces an inherent risk of product liability or similar causes of action as a result of the clinical testing of its product candidates. This risk exists even if a product is approved for commercial sale by the FDA and manufactured in facilities licensed and regulated by the FDA or an applicable foreign regulatory authority and notwithstanding the Company complying with applicable laws on promotional activity. The Company's products and product candidates are designed to affect important bodily functions and processes. Any side effects, manufacturing defects, misuse or abuse associated with the Company's product candidates could result in injury to a patient or potentially even death. The Company cannot offer any assurance that it will not face product liability suits in the future, nor can it assure that its insurance coverage will be sufficient to cover its liability under any such cases.

In addition, a liability claim may be brought against the Company even if its product candidates merely appear to have caused an injury. Product liability claims may be brought against the Company by consumers, healthcare providers, pharmaceutical companies or others selling or otherwise coming into contact with its product candidates, among others, and under some circumstances even government agencies. If the Company cannot successfully defend itself

against product liability or similar claims, it will incur substantial liabilities, reputational harm and possibly injunctions and punitive actions. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- withdrawal or delay of recruitment or decreased enrollment rates of clinical trial participants;
- termination or increased government regulation of clinical trial sites or entire trial programs;
- the inability to commercialize the Company's product candidates;
- decreased demand for the Company's product candidates;
- impairment of the Company's business reputation;
- product recall or withdrawal from the market or labeling, marketing or promotional restrictions;
- substantial costs of any related litigation or similar disputes;
- distraction of management's attention and other resources from the Company's primary business;
- significant delay in product launch;
- substantial monetary awards to patients or other claimants against the Company that may not be covered by insurance;
- withdrawal of reimbursement or formulary inclusion; or
- loss of revenue.

Although the Company has product liability insurance coverage for its clinical trials, the insurance coverage may not be sufficient to cover all of its product liability-related expenses or losses and may not cover it for any expenses or losses the Company may suffer. Moreover, insurance coverage is becoming increasingly expensive, restrictive and narrow, and, in the future, the Company may not be able to maintain adequate insurance coverage at a reasonable cost, in sufficient amounts or upon adequate terms to protect it against losses due to product liability or other similar legal actions. The Company will need to increase its product liability coverage if any of its product candidates receive regulatory approval, which will be costly, and it may be unable to obtain this increased product liability insurance on commercially reasonable terms or at all and for all geographies in which the Company wishes to launch. A successful product liability claim or series of claims brought against the Company, if judgments exceed its insurance coverage, could decrease its cash and harm its business, financial condition, operating results and future prospects.

The Company's employees, independent contractors, principal investigators, other clinical trial staff, consultants, vendors, CROs and any partners with whom the Company may collaborate may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

The Company is exposed to the risk that its employees, independent contractors, principal investigators, other clinical trial staff, consultants, vendors, CROs and any partners with which the Company may collaborate may engage in fraudulent or other illegal activity. Misconduct by these persons could include intentional, reckless, gross or negligent misconduct or unauthorized activity that violates: laws or regulations, including those laws requiring the reporting of true, complete and accurate information to the FDA or foreign regulatory authorities; manufacturing standards; federal, state and foreign healthcare fraud and abuse laws and data privacy; anticorruption laws, antikickback and Medicare/Medicaid rules, or laws that require the true, complete and accurate reporting of financial information or data, books and records. If any such or similar actions are instituted against the Company and the Company is not successful in defending itself or asserting the Company's rights, those actions could have a significant impact on the Company's business, including the imposition of civil, criminal and administrative and punitive penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, debarments, contractual damages, reputational harm, diminished profits and future earnings, injunctions, and curtailment or cessation of the Company's operations, any of which could adversely affect the Company's ability to operate the Company's business and the Company's operating results.

The Company may be subject to risks related to off-label use of its product candidates.

The FDA strictly regulates the advertising and promotion of drug products, and drug products may only be marketed or promoted for their FDA approved uses, consistent with the product's approved labeling. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such uses. Advertising and promotion of any product candidate that obtains approval in the United States will be heavily scrutinized by the FDA, the Department of Justice, the Office of Inspector General of the Department of Health and Human Services, state attorneys general, members of Congress and the public. Violations, including promotion of the Company's products for unapproved or off-label uses, are subject to enforcement letters, inquiries and investigations, and civil, criminal and/or administrative sanctions by the FDA. Additionally, advertising and promotion of any product candidate that obtains approval outside of the United States will be heavily scrutinized by relevant foreign regulatory authorities.

Even if the Company obtains regulatory approval for its product candidates, the FDA or comparable foreign regulatory authorities may require labeling changes or impose significant restrictions on a product's indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance.

In the U.S., engaging in impermissible promotion of the Company's product candidates for off-label uses can also subject it to false claims litigation under federal and state statutes, which can lead to civil, criminal and/or administrative penalties and fines and agreements, such as a corporate integrity agreement, that materially restrict the manner in which the Company promotes or distributes its product candidates. If the Company does not lawfully promote its products, the Company may become subject to such litigation and, if it is not successful in defending against such actions, those actions could have a material adverse effect on its business, financial condition and operating results and even result in having an independent compliance monitor assigned to audit the Company's ongoing operations for a lengthy period of time.

The Company's or third party's clinical trials may fail to demonstrate the safety and efficacy of its product candidates, or serious adverse or unacceptable side effects may be identified during their development, which could prevent or delay marketing approval and commercialization, increase the Company's costs or necessitate the abandonment or limitation of the development of the product candidate.

Before obtaining marketing approvals for the commercial sale of any product candidate, the Company must demonstrate through lengthy, complex and expensive preclinical testing and clinical trials that such product candidate is both safe and effective for use in the applicable indication. Failures can occur at any stage of testing. Clinical trials often fail to demonstrate safety and are associated with side effects or have characteristics that are unexpected. Based on the safety profile seen in clinical testing, the Company may need to abandon development or limit development to more narrow uses in which the side effects or other characteristics are less prevalent, less severe or more tolerable from a risk-benefit perspective. The FDA or an IRB may also require that the Company suspend, discontinue, or limit clinical trials based on safety information. Such findings could further result in regulatory authorities failing to provide marketing authorization for the product candidate. Many pharmaceutical candidates that initially showed promise in early-stage testing and which were efficacious have later been found to cause side effects that prevented further development of the drug candidate and, in extreme cases, the side effects were not seen until after the drug was marketed, causing regulators to remove the drug from the market post-approval.

The Company may expend its limited resources to pursue a particular indication and fail to capitalize on indications that may be more profitable or for which there is a greater likelihood of success.

Because the Company has limited financial and managerial resources, it is currently focusing only on development programs that it identifies for specific indications for its product candidates. As a result, the Company may forego or delay pursuit of opportunities for other indications, or with other potential product candidates that later prove to have greater commercial potential. The Company's resource allocation decisions may cause it to fail to capitalize on viable commercial products or profitable market opportunities. The Company's spending on current and future research and development programs for specific indications or future product candidates may not yield any commercially viable products. If the Company does not accurately evaluate the commercial potential or target market for a product candidate, it may not gain approval or achieve market acceptance of that candidate, and its business and financial results will be harmed.

The Company may choose to discontinue developing or commercializing any of its product candidates, or may choose to not commercialize product candidates in approved indications, at any time during development or after approval, which could adversely affect the Company and its operations.

At any time, the Company may decide to discontinue the development of, or temporarily pause the development of, any of its product candidates for a variety of reasons, including the appearance of new technologies that make its product candidates obsolete, competition from a competing product or changes in or failure to comply with applicable regulatory requirements. If the Company temporarily pauses or terminates a program in which it has invested significant resources, the Company will not receive any return on its investment and it will have missed the opportunity to have allocated those resources to potentially more productive uses which could have an adverse effect on the Company and its business.

The Company may also be subject to stricter healthcare laws, regulation and enforcement, and its failure to comply with those laws could adversely affect its business, operations and financial condition.

Certain federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to the Company's business. The Company is subject to regulation by both the federal government and the states in which it or its partners conduct business. The healthcare laws and regulations that may affect the Company's ability to operate include, but are not limited to: the federal Anti-Kickback Statute; federal civil and criminal false claims laws and civil monetary penalty laws; the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act; the federal physician sunshine requirements under the Affordable Care Act; the Foreign Corrupt Practices Act as it applies to activities outside of the United States; and state law equivalents of many of the above federal laws.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of the Company's business activities could be subject to challenge under one or more of such laws. In addition, healthcare reform legislation has strengthened these laws. For example, the Affordable Care Act, among other things, amended the intent requirement of the federal Anti-Kickback Statute and certain criminal healthcare fraud statutes. A person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it. In addition, the Affordable Care Act provided that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act.

Achieving and sustaining compliance with these laws may prove costly. In addition, any action against the Company for violation of these laws, even if the Company successfully defends against it, could cause the Company to incur significant legal expenses and divert its management's attention from the operation of its business and result in reputational damage. If the Company's operations are found to be in violation of any of the laws described above or any other governmental laws or regulations that apply to the Company, it may be subject to significant penalties, including administrative, civil and criminal penalties, damages, including punitive damages, fines, disgorgement, the exclusion from participation in federal and state healthcare programs, individual imprisonment or the curtailment or restructuring of its operations, and injunctions, any of which could adversely affect the Company's ability to operate its business and its financial results.

The Company's inability to successfully in-license, acquire, develop and market additional product candidates or approved products would impair its ability to grow its business.

The Company may in-license, acquire, develop and market additional products and product candidates. Because the Company's internal research and development capabilities are limited, it may be dependent on pharmaceutical companies, academic or government scientists and other researchers to sell or license products or technology to it. The success of this strategy depends partly on the Company's ability to identify and select promising pharmaceutical product candidates and products, negotiate licensing or acquisition agreements with their current owners, and finance these arrangements.

The process of identifying, negotiating and implementing a license or acquisition of a product candidate or approved product is lengthy and complex. Other companies, including some with substantially greater financial, marketing, sales and other resources, may compete with the Company for the license or acquisition of product candidates and

approved products. Moreover, the Company may devote resources to potential acquisitions or licensing opportunities that are never completed, or the Company may fail to realize the anticipated benefits of such efforts. The Company may not be able to acquire the rights to additional product candidates on terms that it finds acceptable or at all.

Further, any product candidate that the Company acquires or licenses may require additional development efforts prior to commercial sale, including preclinical or clinical testing and approval by the FDA and applicable foreign regulatory authorities. All product candidates are prone to risks of failure typical of pharmaceutical product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities. In addition, the Company cannot provide assurance that any approved products that it acquires will be manufactured or sold profitably or achieve market acceptance.

The Company may seek to avail itself of mechanisms to expedite the development or approval for product candidates it may pursue in the future, such as Fast Track or breakthrough designation, but such mechanisms may not actually lead to a faster development or regulatory review or approval process.

The Company may seek to avail itself of Fast Track designation, breakthrough designation, or priority review for product candidates it may pursue in the future. For example, if a drug is intended for the treatment of a serious or life-threatening condition and the drug demonstrates the potential to address unmet medical needs for this condition, the drug sponsor may apply for FDA Fast Track designation. However, the FDA has broad discretion with regard to these mechanisms, and even if the Company believes a particular product candidate is eligible for any such mechanism, it cannot guarantee that the FDA would decide to grant it. Even if the Company believes a product candidate meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. Even if it does obtain Fast Track or priority review designation or pursue an accelerated approval pathway, the Company may not experience a faster development process, review, or approval compared to conventional FDA procedures. The FDA may withdraw a particular designation if it believes that the designation is no longer supported by data from the Company's clinical development program.

Risks Related to the Company's Dependence on Third Parties

The Company expects to rely on collaborations with third parties for the successful development and commercialization of its product candidates.

The Company expects to rely upon the efforts of third parties for the successful development and commercialization of the Company's current and future product candidates. The clinical and commercial success of the Company's product candidates may depend upon maintaining successful relationships with third-party partners which are subject to a number of significant risks, including the following:

- the Company's partners' ability to execute their responsibilities in a timely, cost-efficient and compliant manner;
- reduced control over delivery and manufacturing schedules;
- price increases;
- manufacturing deviations from internal or regulatory specifications;
- quality incidents;
- the failure of partners to perform their obligations for technical, market or other reasons;
- misappropriation of the Company's current or future product candidates; and
- other risks in potentially meeting the Company's current and future product commercialization schedule or satisfying the requirements of its end-users.

The Company cannot provide assurance that it will be able to establish or maintain third-party relationships in order to successfully develop and commercialize its product candidates.

The Company relies completely on third-party contractors to supply, manufacture and distribute clinical drug supplies for its product candidates.

The Company does not currently have, nor does it plan to acquire, the infrastructure or capability to supply, store, manufacture or distribute preclinical, clinical or commercial quantities of drug substances or products. Additionally, the Company has not entered into a long-term commercial supply agreement to provide it with such drug substances or products. As a result, the Company's ability to develop its product candidates is dependent, and the Company's ability to supply its products commercially will depend, in part, on the Company's ability to obtain the active pharmaceutical ingredients ("APIs") and other substances and materials used in its product candidates successfully from third parties and to have finished products manufactured by third parties in accordance with regulatory requirements and in sufficient quantities for preclinical and clinical testing and commercialization. If the Company fails to develop and maintain supply and other technical relationships with these third parties, it may be unable to continue to develop or commercialize its products and product candidate, which could adversely affect the Company and its business.

The Company is dependent on its contract suppliers and manufacturers for day-to-day compliance with applicable laws and cGMPs for production of both APIs and finished products. If the safety or quality of any product or product candidate or component is compromised due to a failure to adhere to applicable laws or for other reasons, the Company may not be able to commercialize or obtain regulatory approval for the affected product or product candidate successfully, and the Company may be held liable for injuries sustained as a result.

The Company expects to continue to depend on third-party contract suppliers and manufacturers. The Company's supply and manufacturing agreements do not guarantee that a contract supplier or manufacturer will provide services adequate for its needs. Additionally, any damage to or destruction of the Company's third-party manufacturer's or suppliers' facilities or equipment, even by force majeure, may significantly impair the Company's ability to have its products and product candidates manufactured on a timely basis. The Company's reliance on contract manufacturers and suppliers further exposes it to the possibility that they, or third parties with access to their facilities, will have access to and may misappropriate the Company's trade secrets or other proprietary information. In addition, the manufacturing facilities of certain of the Company's suppliers may be located outside of the United States. This may give rise to difficulties in importing the Company's products or product candidates or their components into the United States or other countries.

Risks Related to the Company's Financial Operations

The Company has expressed substantial doubt about its ability to continue as a going concern.

Management has determined that there is substantial doubt about the Company's ability to continue as a going concern for a period of one year following the issuance of this report. This determination was based on the following factors: (i) the Company's available cash as of the date of this filing will not be sufficient to fund its anticipated level of operations for the next 12 months; (ii) the Company will require additional financing by mid-2024 to continue at its expected level of operations; and (iii) if the Company fails to obtain the needed capital, it will be forced to delay, scale back, or eliminate some or all of its development activities or perhaps cease operations. The Company's future consolidated financial statements may include a similar qualification about its ability to continue as a going concern. The Company's year-end and interim consolidated financial statements were prepared assuming that it will continue as a going concern and do not include any adjustments that may result from the outcome of this uncertainty.

The Company would need to seek additional financing or modify its operational plans. If the Company seeks additional financing to fund its business activities in the future and there remains substantial doubt about its ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding to the Company on commercially reasonable terms or at all.

Failure to remediate a material weakness in internal controls over financial reporting could result in material misstatements in the Company's consolidated financial statements.

The Company's management has identified a material weakness in its internal control over financial reporting. The material weakness was due to a lack of controls in the financial closing and reporting process, including a lack of

segregation of duties and the documentation and design of formalized processes and procedures surrounding the creation and posting of journal entries and account reconciliations. Additionally, the Company's management identified a material weakness in its internal control over the fair value calculation of options granted during the quarter ended June 30, 2021, although management concluded that this material weakness has been remediated in the year ended December 31, 2022.

If the Company's remaining material weakness, which management concluded is still present as of December 31, 2022, is not remediated, or if the Company identifies further material weaknesses in its internal controls, the Company's failure to establish and maintain effective disclosure controls and procedures and internal control over financial reporting could result in material misstatements in its consolidated financial statements and a failure to meet its reporting and financial obligations.

Changing circumstances and market conditions, some of which may be beyond the Company's control, could impair our ability to access our existing cash and cash equivalents and investments and to timely pay key vendors and others.

Changing circumstances and market conditions, some of which may be beyond the Company's control, could impair its ability to access its existing cash and cash equivalents and investments and to timely pay key vendors and others. For example, on March 10, 2023, Silicon Valley Bank ("SVB") was placed into receivership with the Federal Deposit Insurance Corporation ("FDIC"), which resulted in all funds held at SVB being temporarily inaccessible by SVB's customers. Although the Company does not have any funds at SVB, if other banks and financial institutions with whom the Company has banking relationships enter receivership or become insolvent in the future in response to financial conditions affecting the banking system and financial markets, the Company may be unable to access, and the Company may lose, some or all of its existing cash and cash equivalents to the extent those funds are not insured or otherwise protected by the FDIC. In addition, in such circumstances the Company might not be able to timely pay key vendors and others. The Company regularly maintain cash balances that are not insured or are in excess of the FDIC's insurance limit. Any delay in the Company's ability to access its cash and cash equivalents (or the loss of some or all of such funds) or to timely pay key vendors and others could have a material adverse effect on the Company's operations and cause it to need to seek additional capital sooner than planned.

The Company may be adversely affected by natural disasters and other catastrophic events and by man-made problems such as terrorism that could disrupt its business operations, and its business continuity and disaster recovery plans may not adequately protect it from a serious disaster.

The Company's headquarters and main research facility are located in the greater San Diego area, which in the past has experienced severe earthquakes and fires. If these earthquakes, fires, other natural disasters, health pandemics or epidemics, terrorism and similar unforeseen events beyond its control, including for example the ongoing COVID-19 pandemic, prevented it from using all or a significant portion of its headquarters or research facility, it may be difficult or, in certain cases, impossible for the Company to continue its business for a substantial period of time. The Company does not have a disaster recovery or business continuity plan in place and may incur substantial expenses as a result of the absence or limited nature of the Company's internal or third-party service provider disaster recovery and business continuity plans, which, particularly when taken together with its lack of earthquake insurance, could have a material adverse effect on its business. Furthermore, integral parties in the Company's supply chain are operating from single sites, increasing their vulnerability to natural disasters or other sudden, unforeseen and severe adverse events. If such an event were to affect its supply chain, it could have a material adverse effect on the Company's ability to conduct clinical trials, its development plans and its business.

If our information systems or data, or those of third parties upon which we rely, are or were compromised, we could experience adverse consequences resulting from such compromise, including but not limited to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; loss of customers or sales; and other adverse consequences.

In the ordinary course of our business, we may process, as defined above, proprietary, confidential, and sensitive data, including personal data (such as health-related patient data), intellectual property, and trade secrets (collectively, sensitive information). We may rely upon third-party service providers and technologies to operate critical business systems to process sensitive information in a variety of contexts, including, without limitation, third-party providers

of cloud-based infrastructure, employee email, CROs, and other functions. Our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. We may share or receive sensitive information with or from third parties.

The risk of a security breach or disruption, particularly through cyber-attacks, cyber-intrusion, malicious internet-based activity, and online and offline fraud, are prevalent and have generally increased as the number, intensity, and sophistication of attempted attacks and intrusions from around the world have increased. These threats are becoming increasingly difficult to detect and come from a variety of sources, including traditional computer hackers, threat actors, personnel (such as through theft or misuse), sophisticated nation states, and nation-state-supported actors. Some actors now engage and are expected to continue to engage in cyber-attacks, including without limitation nation-state actors for geopolitical reasons and in conjunction with military conflicts and defense activities. During times of war and other major conflicts, we and the third parties upon which we rely may be vulnerable to a heightened risk of these attacks, including cyber-attacks that could materially disrupt our systems and operations, supply chain, and ability to produce, sell and distribute our products.

We and the third parties upon which we rely may be subject to a variety of evolving threats, including but not limited to social engineering attacks (including through phishing attacks), malicious code (such as viruses and worms), malware (including as a result of advanced persistent threat intrusions), denial-of-service attacks (such as credential stuffing), personnel misconduct or error, ransomware attacks, supply-chain attacks, software bugs, server malfunctions, software or hardware failures, loss of data or other information technology assets, adware, natural disasters, terrorism, war, and telecommunication and electrical failures. Ransomware attacks, including by organized criminal threat actors, nation-states, and nation-state-supported actors, are becoming increasingly prevalent and can lead to significant interruptions in our operations, loss of data and income, reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments. Similarly, supply-chain attacks have increased in frequency and severity.

Furthermore, the COVID-19 pandemic and our remote workforce poses increased risks to our information technology systems and data, as more of our employees work from home, utilizing network connections outside our premises.

Any of the previously identified or similar threats could cause a security breach or disruption. While the Company has not experienced any such security breach or other disruption to date, if such an event were to occur, it could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure of, or access to our sensitive information and cause interruptions in the Company's operations, including material disruptions of its development programs and business operations.

We may expend significant resources or modify our business activities (including our clinical trial activities) to try to protect against security breaches and disruptions. Certain data privacy and security obligations may require us to implement and maintain specific security measures, industry-standard or reasonable security measures to protect our information technology systems and sensitive information. While we have implemented security measures designed to protect against security incidents, there can be no assurance that these measures will be effective. We may be unable in the future to detect vulnerabilities in our information technology systems because such threats and techniques change frequently, are often sophisticated in nature, and may not be detected until after a security breach or disruption has occurred. Despite our efforts to identify and remediate vulnerabilities, if any, in our information technology systems, our efforts may not be successful. Further, we may experience delays in developing and deploying remedial measures designed to address any such identified vulnerabilities.

Applicable data privacy and security obligations may require us to notify relevant stakeholders of certain security breaches and disruptions. Such disclosures are costly, and the disclosure or the failure to comply with such requirements could lead to adverse consequences. If we (or a third party upon whom we rely) experience a security breach or other disruption, or are perceived to have experienced such events, we may experience adverse consequences, including: government enforcement actions (for example, investigations, fines, penalties, audits, and inspections); additional reporting requirements and/or oversight; restrictions on processing sensitive information (including personal data); litigation (including class claims); indemnification obligations; negative publicity; reputational harm; monetary fund diversions; interruptions in our operations (including availability of data); financial loss; and other similar harms. In particular, since the Company sponsors clinical trials, any breach or disruption that compromises patient data and identities could generate significant reputational damage, which may affect trust in the

Company and our ability to recruit for future clinical trials. Additionally, the loss of clinical trial data from completed or future clinical trials could result in delays in the Company's regulatory approval efforts and significantly increase its costs to recover or reproduce the data.

Our contracts may not contain limitations of liability, and even where they do, there can be no assurance that limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to our data privacy and security obligations. Furthermore, we cannot be sure that our insurance coverage will be adequate or sufficient to protect us from or to mitigate liabilities arising out of our privacy and security practices, that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims.

The Company's business and operations would suffer in the event of system failures, cyber-attacks or a deficiency in its cyber-security.

Despite the implementation of security measures, the Company's internal computer systems and those of its current and future CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Although the Company has not suffered any material incidents to date, the risk of a security breach or disruption, particularly through cyber-attacks or cyber-intrusion, including by computer hackers, foreign governments, and cyber-terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. While the Company has not experienced any such material system failure, accident or security breach to date, if such an event were to occur and cause interruptions in the Company's operations, it could result in a material disruption of its development programs and its business operations. In addition, since the Company sponsors clinical trials, any breach that compromises patient data and identities causing a breach of privacy could generate significant reputational damage and legal liabilities and costs to recover and repair, including affecting trust in the Company to recruit for future clinical trials. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in the Company's regulatory approval efforts and significantly increase its costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, the Company's data or applications or inappropriate disclosure of confidential or proprietary information, the Company could incur liability and the further development and commercialization of its products and product candidates could be delayed.

Risks Related to the Company's Intellectual Property

The Company may not be able to obtain, maintain or enforce global patent rights or other intellectual property rights that cover its product candidates and technologies that are of sufficient breadth to prevent third parties from competing against the Company.

The Company's success with respect to its product candidates will depend, in part, on its ability to obtain and maintain patent protection in both the U.S. and other countries, to preserve its trade secrets and to prevent third parties from infringing on its proprietary rights. The Company's ability to protect its product candidates from unauthorized or infringing use by third parties depends in substantial part on its ability to obtain and maintain valid and enforceable patents around the world.

The patent application process, also known as patent prosecution, is expensive and time-consuming, and the Company and its current or future licensors and licensees may not be able to prepare, file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner in all the countries that are desirable. It is also possible that the Company or its current licensors, or any future licensors or licensees, will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Therefore, these and any of the Company's patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of its business. Moreover, the Company's competitors independently may develop equivalent knowledge, methods and know-how or discover workarounds to the Company patents that would not constitute infringement. Any of these outcomes could impair the Company's ability to enforce the exclusivity of its patents effectively, which may have an adverse impact on its business, financial condition and operating results.

The Company's ability to obtain, maintain and enforce patents is uncertain and involves complex legal and factual questions especially across countries. Accordingly, rights under any existing patents or any patents the Company might obtain or license may not cover its product candidates or may not provide the Company with sufficient protection for its product candidates to afford a sustainable commercial advantage against competitive products or processes, including those from branded, generic and over-the-counter pharmaceutical companies. In addition, the Company cannot guarantee that any patents or other intellectual property rights will issue from any pending or future patent or other similar applications owned by or licensed to the Company. Even if patents or other intellectual property rights have issued or will issue, the Company cannot guarantee that the claims of these patents and other rights are or will be held valid or enforceable by the courts, through injunction or otherwise, or will provide the Company with any significant protection against competitive products or otherwise be commercially valuable to the Company in every country of commercial significance that the Company may target.

The Company's ability to obtain and maintain valid and enforceable patents depends on whether the differences between its technology and the prior art allow its technology to be patentable over the prior art. The Company does not have outstanding issued patents covering all of the recent developments in its technology and is unsure of the patent protection that it will be successful in obtaining, if any. Even if the patents do successfully issue, third parties may design around or challenge the validity, enforceability or scope of such issued patents or any other issued patents the Company owns or licenses, which may result in such patents being narrowed, invalidated or held unenforceable. If the breadth or strength of protection provided by the patents the Company holds or pursues with respect to its product candidates is challenged, it could dissuade companies from collaborating with the Company to develop or threaten its ability to commercialize or finance its product candidates.

The laws of some foreign jurisdictions do not provide intellectual property rights to the same extent or duration as in the U.S., and many companies have encountered significant difficulties in acquiring, maintaining, protecting, defending and especially enforcing such rights in foreign jurisdictions. If the Company encounters such difficulties in protecting or are otherwise precluded from effectively protecting its intellectual property in foreign jurisdictions, its business prospects could be substantially harmed, especially internationally.

Proprietary trade secrets and unpatented know-how are also very important to the Company's business. Although the Company has taken steps to protect its trade secrets and unpatented know-how by entering into confidentiality agreements with third parties, and intellectual property protection agreements with officers, directors, employees, and certain consultants and advisors, there can be no assurance that binding agreements will not be breached or enforced by courts, that the Company would have adequate remedies for any breach, including injunctive and other equitable relief, or that its trade secrets and unpatented know-how will not otherwise become known, inadvertently disclosed by the Company or its agents and representatives, or be independently discovered by its competitors. If trade secrets are independently discovered, the Company would not be able to prevent their use and if the Company and its agents or representatives inadvertently disclose trade secrets and/or unpatented know-how, the Company may not be allowed to retrieve these trade secrets and/or unpatented know-how and maintain the exclusivity it previously held.

The Company may not be able to protect its intellectual property rights throughout the world.

Filing, prosecuting and defending patents on the Company's product candidates does not guarantee exclusivity. The requirements for patentability differ in certain countries, particularly developing countries. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as laws in the United States, especially when it comes to granting use and other kinds of patents and what kind of enforcement rights will be allowed, especially injunctive relief in a civil infringement proceeding. Consequently, the Company may not be able to prevent third parties from practicing its inventions in all countries outside the United States and even in launching an identical version of the Company's product notwithstanding the Company has a valid patent in that country. Competitors may use the Company's technologies in jurisdictions where it has not obtained patent protection to develop their own products, or produce copy products, and, further, may export otherwise infringing products to territories where the Company has patent protection but enforcement on infringing activities is inadequate or where the Company has no patents. These products may compete with the Company's products, and the Company's patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

In addition, certain countries in Europe and certain developing countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties, especially if the patent owner does not enforce or

use its patents over a protracted period of time. In some cases, the courts will force compulsory licenses on the patent holder even when finding the patent holder's patents are valid if the court believes it is in the best interests of the country to have widespread access to an essential product covered by the patent. In these situations, the royalty the court requires to be paid by the license holder receiving the compulsory license is not calculated at fair market value and can be inconsequential, thereby disaffecting the patentholder's business. In these countries, the Company may have limited remedies if its patents are infringed or if the Company is compelled to grant a license to its patents to a third party, which could also materially diminish the value of those patents. This would limit its potential revenue opportunities. Accordingly, the Company's efforts to enforce its intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that the Company owns or licenses, especially in comparison to what it enjoys from enforcing its intellectual property rights in the United States. Finally, the Company's ability to protect and enforce its intellectual property rights may be adversely affected by unforeseen changes in both U.S. and foreign intellectual property laws, or changes to the policies in various government agencies in these countries, including but not limited to the patent office issuing patents and the health agency issuing pharmaceutical product approvals. Finally, many countries have large backlogs in patent prosecution, and in some countries in Latin America it can take years, even decades, just to get a pharmaceutical patent application reviewed notwithstanding the merits of the application.

Obtaining and maintaining the Company's patent protection depends on compliance with various procedural, document submission, fee payment, and other requirements imposed by governmental patent agencies, and its patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance and annuity fees on any issued patent are due to be paid to the U.S. Patent and Trade Office ("USPTO") and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can, in many cases, be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction just for failure to know about and/or timely pay a prosecution fee. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees in prescribed time periods, and failure to properly legalize and submit formal documents in the format and style the country requires. If the Company or its licensors fail to maintain the patents and patent applications covering its product candidates for any reason, the Company's competitors might be able to enter the market, which would have an adverse effect on the Company's business.

If the Company fails to comply with its obligations under its intellectual property license agreements, it could lose license rights that are important to its business. Additionally, these agreements may be subject to disagreement over contract interpretation, which could narrow the scope of its rights to the relevant intellectual property or technology or increase its financial or other obligations to its licensors.

The Company has entered into in-license agreements with respect to certain of its product candidates. These license agreements impose various diligence, milestone, royalty, insurance and other obligations on the Company. From time to time, the Company may be delayed in various diligence or other obligations upon it. For example, the Company has experienced delays in meeting certain regulatory milestones related to clinical studies under its license agreements with the Regents of the University of California ("Regents"). If the Company fails to comply with these obligations, Regents or the respective licensors may terminate the license. The loss of such rights could materially adversely affect its business, financial condition, operating results and prospects.

If the Company is sued for infringing intellectual property rights of third parties, such litigation could be costly and time consuming and could prevent or delay it from developing or commercializing its product candidates.

The Company's commercial success depends on its ability to develop, manufacture, market and sell its product candidates and use its proprietary and licensed technologies without infringing the proprietary rights of third parties. The Company cannot assure that marketing and selling such candidates and using such technologies will not infringe existing or future patents. Numerous U.S.- and foreign-issued patents and pending patent applications owned by third parties exist in the fields relating to its product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that others may assert that its product candidates, technologies or

methods of delivery or use infringe their patent rights. Moreover, it is not always clear to industry participants, including us, which patents and other intellectual property rights cover various drugs, biologics, drug delivery systems or their methods of use, and which of these patents may be valid and enforceable. Thus, because of the large number of patents issued and patent applications filed in the Company's fields across many countries, there may be a risk that third parties may allege they have patent rights encompassing the Company's product candidates, technologies or methods.

In addition, there may be issued patents of third parties that are infringed or are alleged to be infringed by the Company's product candidates or proprietary technologies notwithstanding patents and licenses the Company may possess. Because some patent applications in the United States may be maintained in secrecy until the patents are issued, because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing and because publications in the scientific literature often lag behind actual discoveries, the Company cannot be certain that others have not filed patent applications for technology covered by its own and in-licensed issued patents or its pending applications. The Company's competitors may have filed, and may in the future file, patent applications covering the Company's own product candidates or technology similar to the Company's technology. Any such patent application may have priority over the Company's own and in-licensed patent applications or patents, which could further require the Company to obtain rights to issued patents covering such technologies, which may mean paying significant licensing fees or the like. If another party has filed a U.S. patent application on inventions similar to those owned or in-licensed to us, the Company or, in the case of in-licensed technology, the licensor may have to participate, in the United States, in an interference proceeding to determine priority of invention.

The Company may be exposed to, or threatened with, future litigation by third parties having patent or other intellectual property rights alleging that its product candidates or proprietary technologies infringe such third parties' intellectual property rights, including litigation resulting from filing under Paragraph IV of the Hatch-Waxman Act or other countries' laws similar to the Hatch-Waxman Act. These lawsuits could claim that there are existing patent rights for such drug, and this type of litigation can be costly and could adversely affect its operating results and divert the attention of managerial and technical personnel, even if the Company does not infringe such patents or the patents asserted against the Company is ultimately established as invalid. There is a risk that a court would decide that the Company is infringing the third party's patents and would order the Company to stop the activities covered by the patents. In addition, there is a risk that a court will order the Company to pay the other party significant damages for having violated the other party's patents.

The occurrence of any of the foregoing could adversely affect the Company's business, financial condition or operating results.

The Company may be subject to claims that its officers, directors, employees, consultants or independent contractors have wrongfully used or disclosed to us alleged trade secrets of their former employers or their former or current customers.

As is common in the biotechnology and pharmaceutical industries, certain of the Company's employees were formerly employed by other biotechnology or pharmaceutical companies, including its competitors or potential competitors. Moreover, the Company engages the services of consultants to assist us in the development of the Company's product candidates, many of whom were previously employed at, or may have previously been or are currently providing consulting services to, other biotechnology or pharmaceutical companies, including the Company's competitors or potential competitors. The Company may be subject to claims that these employees and consultants or the Company has inadvertently or otherwise wrongfully used or disclosed trade secrets or other proprietary information of their former employers or their former or current customers. Although the Company has no knowledge of any such claims being alleged to date, if such claims were to arise, litigation may be necessary to defend against any such claims. Even if the Company is successful in defending against any such claims, any such litigation could be protracted, expensive, a distraction to its management team, not viewed favorably by investors and other third parties, and may potentially result in an unfavorable outcome.

Other Risks Related to the Company

The Company will need to raise additional financing in the future to fund its operations, which may not be available to it on favorable terms or at all.

The Company will require substantial additional capital to fund its operations and conduct the costly and time-consuming clinical trials necessary to pursue regulatory approval of LB1148 and any other product candidates. The Company's future capital requirements will depend upon a number of factors, including: the number and timing of future product candidates in the pipeline; progress with and results from preclinical testing and clinical trials; the ability to manufacture sufficient drug supplies to complete preclinical and clinical trials; the costs involved in preparing, filing, acquiring, prosecuting, maintaining and enforcing patent and other intellectual property claims; and the time and costs involved in obtaining regulatory approvals and favorable reimbursement or formulary acceptance. For example, the Company recently paused enrollment in its Phase 3 study for return of bowel function, and as a result, the necessary costs and timing of the study are currently uncertain. Raising additional capital may be costly or difficult to obtain and could significantly dilute stockholders' ownership interests or inhibit the Company's ability to achieve its business objectives. If the Company raises additional funds through public or private equity offerings, the terms of these securities may include liquidation or other preferences that adversely impact the rights of its common stockholders. Further, to the extent that the Company raises additional capital through the sale of common stock or securities convertible or exchangeable into common stock, its stockholders' ownership percentage in the Company will be diluted. In addition, any debt financing may subject the Company to fixed payment obligations and covenants limiting or restricting its ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If the Company raises additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, the Company may have to relinquish certain valuable intellectual property or other rights to its product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to it. Even if the Company were to obtain sufficient funding, there can be no assurance that it will be available on terms acceptable to the Company or its stockholders.

The COVID-19 pandemic, or a similar pandemic, epidemic, or outbreak of an infectious disease, may materially and adversely affect the Company's business and the Company's financial results and could cause a disruption to the development of the Company's product candidates.

Public health crises, such as pandemics or similar outbreaks, could adversely impact the Company's business. The impact of the COVID-19 pandemic and the efforts to mitigate it, resulted in and will likely continue to result in disruptions to the global economy, as well as businesses and capital markets around the world. The Company experienced delays in its development activities as a result of the COVID-19 pandemic, primarily due to temporary and partial shutdowns at certain of the Company's CROs and trial sites that have since resumed operations, and due to governmental responses to the pandemic. Additionally, the emergence of new variants, which could prove resistant to existing vaccines, could again result in major disruptions to businesses and markets worldwide. The extent to which the COVID-19 pandemic will continue to impact the Company's operations or those of its consultants and collaborators, will depend on future developments, including the global macroeconomic effects of the virus.

Global, market and economic conditions, including inflation, may negatively impact the Company's business, financial condition and share price.

Concerns over inflation, geopolitical issues, the U.S. financial markets, foreign exchange rates, capital and exchange controls, unstable global credit markets and financial conditions and the COVID-19 pandemic, have led to periods of significant economic instability, declines in consumer confidence and discretionary spending, diminished expectations for the global economy and expectations of slower global economic growth going forward, and increased unemployment rates. The Company's general business strategy may be adversely affected by any such economic downturns, volatile business environments and continued unstable or unpredictable economic and market conditions. If these conditions continue to deteriorate or do not improve, it may make any necessary debt or equity financing more difficult to complete, more costly and more dilutive. In addition, there is a risk that one or more of our current or future service providers, manufacturers, suppliers and other partners could be negatively affected by difficult economic times, which could adversely affect the Company's ability to attain our operating goals on schedule and on budget or meet our business and financial objectives.

In addition, the Company faces several risks associated with international business and are subject to global events beyond its control, including war, public health crises, such as pandemics and epidemics, trade disputes, economic sanctions, trade wars and their collateral impacts and other international events. Any of these changes could have a material adverse effect on the Company's reputation, business, financial condition or results of operations. There may be changes to the Company's business if there is instability, disruption or destruction in a significant geographic region, regardless of cause, including war, terrorism, riot, civil insurrection or social unrest; and natural or man-made disasters, including famine, flood, fire, earthquake, storm or disease. In February 2022, armed conflict escalated between Russia and Ukraine. The sanctions announced by the U.S. and other countries, following Russia's invasion of Ukraine against Russia to date include restrictions on selling or importing goods, services or technology in or from affected regions and travel bans and asset freezes impacting connected individuals and political, military, business and financial organizations in Russia. The U.S. and other countries could impose wider sanctions and take other actions should the conflict further escalate. It is not possible to predict the broader consequences of this conflict, which could include further sanctions, embargoes, regional instability, geopolitical shifts and adverse effects on macroeconomic conditions, currency exchange rates and financial markets, all of which could impact the Company's business, financial condition and results of operations.

The stock price of the Company may be highly volatile.

The market price of shares of the Company could be subject to significant fluctuations. Since the completion of the Merger on April 27, 2021, the Company's stock price has already been subject to significant fluctuation. Market prices for securities of biotechnology and other life sciences companies historically have been particularly volatile subject even to large daily price swings. Some of the factors that may cause the market price of shares of the Company to fluctuate include, but are not limited to:

- the ability of the Company to obtain timely regulatory approvals for LB1148 or future product candidates, and delays or failures to obtain such approvals;
- issues in manufacturing LB1148 or future product candidates;
- the results of current and any future clinical trials of LB1148;
- failure of the Company's current and future product candidates, if approved, to achieve commercial success;
- the entry into, or termination of, or breach by partners of key agreements, including key commercial partner agreements;
- the initiation of, material developments in, or conclusion of any litigation to enforce or defend any intellectual property rights or defend against the intellectual property rights of others;
- announcements of any dilutive equity financings;
- announcements by commercial partners or competitors of new commercial products, clinical progress or the lack thereof, significant contracts, commercial relationships or capital commitments;
- failure to elicit meaningful stock analyst coverage and downgrades of the Company's stock by analysts; and
- the loss of key personnel.

Moreover, the stock markets in general have experienced substantial volatility in the biotech industry that has often been unrelated to the operating performance of individual companies or a certain industry segment. These broad market fluctuations may also adversely affect the trading price of the Company's shares.

In the past, following periods of volatility in the market price of a company's securities, shareholders have often instituted class action securities litigation against those companies. Such litigation, if instituted, could result in substantial costs and diversion of management attention and resources, which could significantly harm the Company's profitability and reputation.

The Company takes advantage of reduced disclosure and governance requirements applicable to smaller reporting companies, which could result in its common stock being less attractive to investors.

As of June 30, 2022, the last business day of the Company's most recently completed second fiscal quarter, the public float of the Company is less than $250 million and therefore, the Company qualifies as a smaller reporting company under SEC rules. As a smaller reporting company, the Company is able to take advantage of reduced disclosure requirements, such as simplified executive compensation disclosures and reduced financial statement disclosure requirements in its SEC filings. Decreased disclosures in the Company's SEC filings due to its status as a smaller reporting company may make it harder for investors to analyze its results of operations and financial prospects. The Company cannot predict if investors will find the Company's common stock less attractive if it relies on these exemptions. If some investors find its common stock less attractive as a result, there may be a less active trading market for its common stock and its stock price may be more volatile. The Company may take advantage of the reporting exemptions applicable to a smaller reporting company until it is no longer a smaller reporting company, which status would end once it has a public float greater than $250 million. In that event, the Company could still be a smaller reporting company if its annual revenues were below $100 million and it has a public float of less than $700 million.

The Company does not anticipate paying any dividends in the foreseeable future.

The current expectation is that the Company will retain its future earnings to fund the development and growth of its business. As a result, capital appreciation, if any, of the shares of the Company will be your sole source of gain, if any, for the foreseeable future.

If the Company fails to attract and retain management and other key personnel, it may be unable to successfully develop or commercialize its product candidates or otherwise implement its business plan.

The biotechnology industry has experienced a high rate of turnover in recent years. The Company's ability to compete in the highly competitive biopharmaceuticals industry depends upon the ability to attract, retain and motivate highly skilled and experienced personnel with scientific, medical, regulatory, manufacturing and management skills and experience. The Company will conduct its operations in the greater San Diego area, a region that is home to many other biopharmaceutical companies as well as many academic and research institutions, resulting in fierce competition for qualified personnel. The Company may not be able to attract or retain qualified personnel in the future due to the intense competition for a limited number of qualified personnel among biopharmaceutical companies. Many of the other biopharmaceutical companies against which the Company will compete have greater financial and other resources, different risk profiles and a longer history in the industry. The Company's competitors may provide higher compensation, more diverse opportunities and/or better opportunities for career advancement. Any or all of these competing factors may limit the Company's ability to continue to attract and retain high quality personnel, which could negatively affect its ability to successfully develop and commercialize its product candidates and to grow the business and operations as currently contemplated.

The Company's ability to use NOL carryforwards and certain other tax attributes may be limited.

The Company has incurred substantial losses during its history and does not expect to become profitable in the near future, and it may never achieve profitability. Unused U.S. federal and state net operating loss ("NOL") carryforwards generated in taxable years beginning before January 1, 2018, may be carried forward to offset future taxable income, if any, until such unused NOLs expire. Under current U.S. federal income tax law, U.S. federal NOLs generated in taxable years beginning after December 31, 2017, can be carried forward indefinitely, but the deductibility of such U.S. federal NOLs in taxable years beginning after December 31, 2020, is limited to 80% of taxable income. State NOL carryforward periods, expirations and limitations may differ from federal tax laws.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, (the "Code"), and corresponding provisions of state law, if the Company undergoes (or has undergone) an “ownership change,” which is generally defined as a greater than 50-percentage-point cumulative change, by value, in its equity ownership over a three-year period, the Company's ability to use its pre-change NOL carryforwards and other pre-change tax attributes to offset its post-change income or taxes may be limited. Including the recently completed Merger, the Company has completed several equity offerings since its inception which may have resulted in an ownership change as defined by Sections 382 and 383 of the Code, or could result in an ownership change in the future. The Company has not completed a Code Section 382 and 383 analysis regarding the limitation of NOL and research and development credit carryforwards for all relevant tax years.

Accordingly, the Company's pre-2018 NOL carryforwards may expire prior to being used, its NOL carryforwards generated in 2018 and thereafter will be subject to a percentage limitation and, the Company's ability to use pre-change NOL carryforwards and other pre-change tax attributes (such as research tax credits) to offset post-change income or taxes may be limited. Similar provisions of state tax law may also apply to limit the Company's use of accumulated state tax attributes. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. As a result, even if the Company attains profitability, it may be unable to use all or a material portion of its NOLs and other tax attributes, which could adversely affect future cash flows.

Changes in tax law could adversely affect the Company’s business.

The rules dealing with U.S. federal, state and local income taxation are constantly under review by the Internal Revenue Service, the U.S. Treasury Department and other governmental bodies. Changes to tax laws (which changes may have retroactive application) could adversely affect the Company or holders of its common stock. In recent years, many such changes have been made and changes are likely to continue to occur in the future. Future changes in tax laws could have a material adverse effect on the Company’s business, cash flow, financial condition or results of operations.

Anti-takeover provisions in the Company’s charter documents and under Delaware law could make an acquisition of the Company more difficult and may prevent attempts by the Company stockholders to replace or remove the Company management.

Provisions in the Company’s certificate of incorporation and bylaws may delay or prevent an acquisition or a change in management. In addition, because the Company is incorporated in Delaware, it is governed by the provisions of Section 203 of the DGCL, which prohibits stockholders owning in excess of 15% of the outstanding Company voting stock from merging or combining with the Company. Although the Company believes these provisions collectively will provide for an opportunity to receive higher bids by requiring potential acquirors to negotiate with the Company’s Board, they would apply even if the offer may be considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by the Company’s stockholders to replace or remove then current management by making it more difficult for stockholders to replace members of the Board, which is responsible for appointing the members of management.

If the Company fails to maintain proper and effective internal controls, its ability to produce accurate financial statements on a timely basis could be impaired.

The Company is subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act and the rules and regulations of Nasdaq. The Sarbanes-Oxley Act requires, among other things, that the Company maintain effective disclosure controls and procedures and internal control over financial reporting. The Company must perform system and process evaluation and testing of its internal control over financial reporting to allow management to report on the effectiveness of its internal controls over financial reporting in its Annual Report on Form 10-K filing for that year, as required by Section 404 of the Sarbanes-Oxley Act. This has required that the Company incur substantial professional fees and internal costs to expand its accounting and finance functions and that it expend significant management efforts. The Company may experience difficulty in meeting these reporting requirements in a timely manner.

The Company may discover weaknesses in its system of internal financial and accounting controls and procedures that could result in a material misstatement of its consolidated financial statements. Prior to the Merger, LBS's management identified a material weakness in its internal control over financial reporting. The material weakness was due to a lack of controls in the financial closing and reporting process for LBS, including a lack of segregation of duties and the documentation and design of formalized processes and procedures surrounding the creation and posting of journal entries and account reconciliations. If the Company does not remediate this material weakness, or if the Company identifies further material weaknesses in its internal controls, the Company's failure to establish and maintain effective internal financial and accounting controls and procedures could result in material misstatements in its consolidated financial statements and a failure to meet its reporting and financial obligations.

If the Company is not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act, or if it is unable to maintain proper and effective internal controls, the Company may not be able to produce timely and accurate consolidated financial statements. If that were to happen, the market price of its common stock could decline and it could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities.

Our Board has broad discretion to issue additional securities, which might dilute the net tangible book value per share of our common stock for existing stockholders.

The Company is entitled under its certificate of incorporation to issue up to 280,000,000 shares of common stock and 7,000,000 "blank check" shares of preferred stock. Shares of the Company's blank check preferred stock provide its Board with broad authority to determine voting, dividend, conversion, and other rights. As of March 8, 2023, the Company has outstanding, common stock or securities convertible into common stock, totaling 4,503,977 shares. As a result, the Company is authorized to issue up to an additional 275,496,023 shares of common stock or common stock equivalents under its certificate of incorporation as amended. Additionally, pursuant to the initial issuance of (i) 1,000,000 shares of Series A 4.5% Convertible Preferred Stock, of which 200,000 shares are outstanding and (ii) 1,460 shares of Series B Convertible Preferred Stock, of which no shares are outstanding, the Company is authorized to issue up to an additional 6,800,000 shares of preferred stock. The Company expects that significant additional capital may be needed in the future to continue its planned operations. To the extent the Company raises additional capital by issuing equity securities, its existing shareholders may experience substantial dilution. The Company may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner the Company determines from time to time. If the Company sells common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. These sales may also result in material dilution to the Company's existing shareholders, and new investors could gain rights superior to existing shareholders. Pursuant to the Company's equity incentive plans and employee stock purchase plan, management is authorized to grant stock options, restricted stock units and other equity-based awards to employees, directors and consultants, and to sell common stock to employees, respectively. Any increase in the number of shares outstanding as a result of the exercise of outstanding options, the vesting or settlement of outstanding stock awards, or the purchase of shares pursuant to the employee stock purchase plan will cause shareholders to experience additional dilution, which could cause the stock price to fall.

General Risk Factors

If equity research analysts do not publish research or reports, or publish unfavorable research or reports, about the Company, its business or its market, its stock price and trading volume could decline.

The trading market for the Company's common stock is and will be influenced by the research and reports that equity research analysts publish about it and its business. Equity research analysts may elect not to provide research coverage of the Company's common stock, and such lack of research coverage may adversely affect the market price of its common stock. In the event it does have equity research analyst coverage, the Company will not have any control over the analysts, or the content and opinions included in their reports. The price of the Company's common stock could decline if one or more equity research analysts downgrade its stock or issue other unfavorable commentary or research. If one or more equity research analysts ceases coverage of the Company or fails to publish reports on it regularly, demand for its common stock could decrease, which in turn could cause its stock price or trading volume to decline.

Future sales of substantial amounts of our common stock, or the possibility that such sales could occur, could adversely affect the market price of our common stock.

Future sales in the public market of shares of our common stock, including shares issued upon exercise of our outstanding stock options, or the perception by the market that these sales could occur, could lower the market price of our common stock or make it difficult for us to raise additional capital.

Our business could be negatively affected as a result of actions of activist stockholders, and such activism could impact the trading value of our securities.

Stockholders may, from time to time, engage in proxy solicitations or advance stockholder proposals, or otherwise attempt to effect changes and assert influence on our Board and management. Activist campaigns that contest or conflict with our strategic direction or seek changes in the composition of our Board could have an adverse effect on our operating results and financial condition. A proxy contest would require us to incur significant legal and advisory fees, proxy solicitation expenses and administrative and associated costs and require significant time and attention by our Board and management, diverting their attention from the pursuit of our business strategy. Any perceived uncertainties as to our future direction and control, our ability to execute on our strategy, or changes to the composition of our Board or senior management team arising from a proxy contest could lead to the perception of a change in the direction of our business or instability which may result in the loss of potential business opportunities, make it more difficult to pursue our strategic initiatives, or limit our ability to attract and retain qualified personnel and business partners, any of which could adversely affect our business and operating results. If individuals are ultimately elected to our Board with a specific agenda, it may adversely affect our ability to effectively implement our business strategy and create additional value for our stockholders. We may choose to initiate, or may become subject to, litigation as a result of the proxy contest or matters arising from the proxy contest, which would serve as a further distraction to our Board and management and would require us to incur significant additional costs. In addition, actions such as those described above could cause significant fluctuations in our stock price based upon temporary or speculative market perceptions or other factors that do not necessarily reflect the underlying fundamentals and prospects of our business.

Securities class action litigation could divert our management's attention and harm our business and could subject us to significant liabilities.

The stock markets have from time to time experienced significant price and volume fluctuations that have affected the market prices for the equity securities of life sciences and biotechnology companies. These broad market fluctuations may cause the market price of our ordinary shares to decline. In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and biopharma companies have experienced significant stock price volatility in recent years. Even if we are successful in defending claims that may be brought in the future, such litigation could result in substantial costs and may be a distraction to our management and may lead to an unfavorable outcome that could adversely impact our financial condition and prospects.

Item 1B. Unresolved Staff Comments.

None

Item 2. Properties.

The Company leases office space for its corporate headquarters under a non-cancelable facility operating lease for 2,747 square feet located in Carlsbad, California. The initial contractual term is for 39-months commencing on June 1, 2022 and expiring on August 31, 2025. The Company has the option to renew the lease for an additional 36-month period at the prevailing market rent upon completion of the initial lease term.

For additional information regarding our lease agreements, see Note 11 of the consolidated financial statements included in this Annual Report on Form 10-K.

Item 3. Legal Proceedings.

The Company is not a party to any material legal proceedings at this time. From time to time, the Company may be subject to various legal proceedings and claims that arise in the ordinary course of its business activities. Although the results of litigation and claims cannot be predicted with certainty, the Company does not believe it is a party to any claim or litigation the outcome of which, if determined adversely to the Company, would individually or in the aggregate be reasonably expected to have a material adverse effect on its business. Regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management resources and other factors.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information

The Company's common stock trades on the Nasdaq Capital Market under the symbol "PALI." On March 17, 2023, the last reported sale price for the Company's common stock on the Nasdaq Capital Market was $1.90 per share.

Holders

As of December 31, 2022, there were approximately 180 holders of record of the Company's common stock, which does not include stockholders who hold shares in street name or stockholders whose shares may be held in trust by other entities.

Dividend Policy

The Company has never declared or paid cash dividends on its common stock. The Company currently intends to retain all available funds and any future earnings for use in the operation of its business and does not anticipate paying any dividends on its common stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of the Company's Board and will depend on, among other factors, the Company's financial condition, operating results, capital requirements, contractual restrictions, general business conditions and other factors that its Board may deem relevant.

Recent Sales of Unregistered Equity Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. Reserved.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion and analysis of financial condition and results of operations together with our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. This discussion and other parts of this Annual Report on Form 10-K contain forward-looking statements that involve risk and uncertainties, such as statements of our plans, objectives, expectations and intentions. Our actual results, performance or achievements could differ materially from any future results, performance or achievements discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section titled "Risk Factors."

OVERVIEW

The Company is a biopharmaceutical company focused on developing therapeutics that protect the integrity of the intestinal barrier. The Company's lead therapeutic candidate, LB1148, is a novel oral liquid formulation of the well-characterized digestive enzyme inhibitor tranexamic acid ("TXA") that is currently being developed for administration prior to surgeries that are at risk of disrupting the intestinal epithelial barrier. By inhibiting the activity of digestive proteases, the Company believes that LB1148 has the potential to reduce the formation of postoperative adhesions between intra-abdominal tissues and accelerate the time to the return of normal gastrointestinal ("GI") function.

Clinical and Regulatory Overview

Prevention of Postoperative Abdominal Adhesions: GI Surgery

Status of the U.S. Phase 2 Adhesions Study

Going forward, the Company will prioritize the advancement of its U.S. Phase 2 adhesions study, which, it believes, will maximize the value of its current product pipeline. Management and the Company's board of directors (the "Board") remain confident in its potential to support advancement to a U.S. Phase 3 study. As discussed below, the Company has decided to pause its U.S. Phase 3 study evaluating return of bowel function in adult patients undergoing gastrointestinal surgery. In pausing this U.S. Phase 3 study, the Company will narrow its focus to the continued advancement of its U.S. Phase 2 adhesions study.

On December 16, 2022, the Company announced that it had enrolled a total of 35 of the planned 70 patients in its Phase 2 study. Of the patients enrolled, as of March 2, 2023, 31 have completed their first surgery, and nine have completed a second surgery, which is a primary assessment endpoint for data under the current study protocol. The Company believes that the data collected to date is sufficient for its evaluation purposes, including an evaluation of its risk profile, and for such reason, the Company is voluntarily ceasing enrollment in the trial. Palisade expects to report topline data from the 35 patients in the second quarter of 2023.

The Company is currently planning a dose optimization study for all indications to determine if a different dosing protocol in healthy volunteers would enhance the risk profile of LB 1148 while simultaneously providing efficacy. It is anticipated that this study will generate pharmacokinetic and pharmacodynamic data across multiple doses in patients, with enrollment expected to commence in the second quarter of 2023.

Postoperative Return of Bowel Function: GI Surgery

In May 2022, the Company's co-development partner in China received clearance from the Center for Drug Evaluation of the National Medical Products Administration of the People's Republic of China to proceed with their Phase 3 clinical trial to evaluate LB1148 for accelerated return of bowel function in adult patients undergoing gastrointestinal surgery. In June 2022, based on data generated by this co-development partner in its earlier Phase 2 study, the Company initiated a Phase 3 clinical trial in the U.S. evaluating LB1148 to accelerate the return of bowel function in adult patients undergoing gastrointestinal surgery.

Status of the U.S. Phase 3 Return of Bowel Function Study

In late September of 2022, the Company's board of directors (the "Board"), in connection with a special clinical subcommittee it appointed, initiated a review of the Company's operations, including its ongoing clinical programs. As part of the review, the Company engaged the services of independent third-party clinical development experts to assist in the review. In October of 2022, the review identified that in 2020, a former member of the Company's

management received unblinded clinical data related to bowel function from a subset of patients in the Company's ongoing U.S. Phase 2 study.

Upon discovery of this information, the special clinical subcommittee of the Board commenced a thorough review of the Company's ongoing clinical programs. As a result of the review, the Company believes that the current U.S. Phase 3 study protocol requires additional standardization across sites and further clarification in the definition of endpoints to permit an adequate assessment of the efficacy of LB1148 to recover GI function. The Company does not believe that the favorable safety and tolerability profiles of LB1148 were impacted by these findings.

Given the foregoing, as well as the financial resources available to the Company at this time, the Company believes it is in its stakeholders' best interests to pause enrollment in the U.S. Phase 3 study in order to determine next steps for the study.

Notwithstanding the pausing of the trial, the Company remains optimistic as to the efficacy of LB1148 for the return of bowel function based on its co-development partner's Phase 2 data and their plan to continue its Phase 3 study in China.

Financial Overview

Financial Results

The Company's operating loss for the year ended December 31, 2022 was $15.7 million, which consisted of research and development expense and general and administrative expense of $6.5 million and $8.8 million, respectively, and restructuring costs of $0.4 million. Net cash used in operating activities was $13.4 million for the year ended December 31, 2022, of which $1.3 million of cash usage was attributable to changes in operating assets and liabilities.

Recent Financings and Warrant Exercises

In May 2022, the Company completed a registered direct equity offering for net proceeds of $1.4 million consisting of gross proceeds of $2.0 million less equity issuance costs of approximately $0.6 million. In August 2022, the Company completed an underwritten public equity offering for net proceeds of $11.5 million consisting of gross proceeds of $13.8 million, including the full exercise of the underwriter's overallotment offering, less equity issuance costs of approximately $2.3 million. Finally, on January 4, 2023, the Company completed a registered direct offering and concurrent private placement for net proceeds of approximately $2.1 million consisting of gross proceeds of $2.5 million less equity issuance costs of approximately $0.4 million.

As of December 31, 2022, holders of 1.4 million common stock purchase warrants issued pursuant to the Company's August underwritten public offering (the "August Warrants") have exercised such warrants for gross cash proceeds of $3.68 million, $1.4 million of which was receivable to the Company as of December 31, 2022. Subsequent to December 31, 2022, an additional 0.5 million Series 1 Warrants and Series 2 Warrants have been exercised for additional gross cash proceeds of $1.2 million.

The Company intends to use the net proceeds from its recent equity financings for working capital and general corporate purposes, including the development of the Company's lead product candidate LB1148. With the additional cash proceeds of $4.7 million received subsequent to year end as a result of the registered direct offering and concurrent private placement, which closed on January 4, 2023, and cash received from warrant exercises, combined with the Company's cash and cash equivalents balance of $12.4 million as of December 31, 2022, the Company believes it has sufficient cash to fund its operations and clinical programs beyond its U.S. Phase 2 adhesions study topline data readout expected in the second quarter of 2023, and into mid-2024.

Reverse Stock Split

On November 15, 2022, the Company effected a 1-for-50 reverse stock split of its issued and outstanding common stock (the "Reverse Stock Split"). As a result of the Reverse Stock Split, each of the Company's shareholders received one new share of common stock for every 50 shares such shareholder held immediately prior to the effective time of the Reverse Stock Split. The Reverse Stock Split affected all the Company's issued and outstanding shares of common stock equally. The par value and authorized shares of the Company's common stock was not adjusted as a result of the Reverse Stock Split. The Reverse Split also affected the Company's outstanding stock options, common stock warrants and other exercisable or convertible securities and resulted in the shares underlying such instruments being reduced and the exercise price being increased proportionately. Unless otherwise noted, all common stock shares, common stock per share data and shares of common stock underlying convertible preferred stock, stock options and common stock warrants included in these financial statements, including the exercise price of such equity instruments, as applicable, have been retrospectively adjusted to reflect the effect of the Reverse Stock Split for all periods presented.

COVID-19

In April 2020, as a result of impacts and risks associated with the COVID-19 pandemic ("COVID-19"), the Company paused enrollment and program activities surrounding the Company's clinical trials of its lead therapeutic candidate, LB1148, due primarily to slower enrollment. The Company's U.S Phase 2 clinical study for the prevention of postoperative abdominal adhesions re-started in February 2022, and in June 2022 the Company initiated its U.S Phase 3 clinical study for the return of bowel function. Notwithstanding, as described above, the Company paused enrollment in the U.S. Phase 3 clinical study for the return of bowel function pending the determination of next steps for the study. The Company cannot predict how legal and regulatory responses to ongoing concerns about COVID-19 or other major public health issues will impact the Company's business, nor can it predict potential adverse impacts related to the availability of capital to fund the Company's operations. Any of these factors, alone or in combination with others, could harm the Company's business, results of operations, financial condition or liquidity. However, the magnitude, timing, and duration of any such potential financial impacts cannot be reasonably estimated at this time.

Refer to Note 1 in Part II, Item 8. "Financial Statement and Supplemental Data" of this Annual Report on Form 10-K for further discussion of COVID-19 and the impact it has had on the Company's business operations. For further discussion of the risks related to COVID-19, see Item 1A. "Risk Factors" in Part I of this Annual Report on Form 10-K.

FINANCIAL OVERVIEW

Amounts discussed herein related to the Company's financial condition and results of operations prior to the closing of the Merger are representative of LBS's operations. The financial condition and results of operations subsequent to the closing of the Merger include the accounts of the Company and its wholly owned subsidiaries, Leading Biosciences, Inc. and Suzhou Neuralstem Biopharmaceutical Co., Ltd.

Revenue

The Company generated no revenues from the sale of its products for any of the periods presented.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for the clinical development of the Company's lead product candidate LB1148, which include:

- salaries and employee-related costs, including stock-based compensation;
- laboratory and vendor expenses related to the execution of preclinical and clinical trials;
- expenses under agreements with third-party contract research organizations, investigative clinical trial sites that conduct research and development activities on the Company's behalf, and consultants;
- costs related to develop and manufacture preclinical study and clinical trial material; and
- regulatory expenses.

The Company's direct research and development expenses are tracked by product candidate and consist primarily of external costs, such as fees paid under third-party license agreements and to outside consultants, Contract Research Organizations ("CROs"), clinical site, contract manufacturing organizations ("CMOs") and research laboratories in connection with its preclinical development, process development, manufacturing, clinical development, and regulatory activities. The Company does not allocate employee costs and costs associated with its discovery efforts, laboratory supplies and facilities, including other indirect costs, to specific product candidates because these costs are deployed across multiple programs and, as such, are not separately classified. The Company primarily uses internal resources to conduct its research as well as for managing its preclinical development, process development, and clinical development activities.

General and Administrative Expenses

General and administrative expenses consist primarily of salary and employee-related costs and benefits, professional fees for legal, intellectual property, investor and public relations, accounting and audit services, insurance costs, director's fees and stipends, and general corporate expenses.

Going Concern

The Company's management has disclosed in Note 1 to the consolidated financial statements included herein that there is substantial doubt about the Company's ability to continue as a going concern for a period of one year following the filing date of this Annual Report on Form 10-K. This determination was based on the following factors: (i) the Company's available cash as of the date of this filing will not be sufficient to fund its anticipated level of operations for the next 12 months; (ii) the Company will require additional financing by mid-2024 to continue at its expected level of operations; and (iii) if the Company fails to obtain the needed capital, it will be forced to delay, scale back, or eliminate some or all of its development activities or perhaps cease operations. In the opinion of management, these factors, among others, raise substantial doubt about the ability of the Company to continue as a going concern as of the filing date of this Annual Report on Form 10-K and for one year from the issuance of the consolidated financial statements.

Results of Operations

The following table summarizes our results of operations for the year ended December 31, 2022 and 2021 (in thousands):

	Year Ended December 31,		Change	
	2022	2021	$	%
Operating expenses				
Research and development	$ 6,547	$ 2,430	$ 4,117	169%
In-process research and development	—	30,117	(30,117)	n/a
General and administrative	8,764	9,307	(543)	(6)%
Restructuring costs	410	—	410	n/a
Total operating expenses	15,721	41,854	(26,133)	(62)%
Loss from operations	(15,721)	(41,854)	26,133	(62)%
Other income (expense):				
Gain on forgiveness of PPP loan	—	279	(279)	n/a
Loss on issuance of secured debt	—	(686)	686	n/a
Gain on change in fair value of warrant liability	2,426	23,033	(20,607)	(89)%
Gain on change in fair value of share liability	—	91	(91)	n/a
Interest expense	(13)	(2,398)	2,385	(99)%
Other income	158	47	111	236%
Loss on issuance of Leading Biosciences, Inc. Series 1 Preferred Stock	—	(1,881)	1,881	n/a
Loss on issuance of warrants	(1,110)	(3,247)	2,137	(66)%
Total other income, net	1,461	15,238	(13,777)	90%
Net loss	$ (14,260)	$ (26,616)	$ 12,356	(46)%

Research and Development Expenses

The increase in research and development expenses of approximately $4.1 million, or 169%, from $2.4 million for the year ended December 31, 2021 to $6.5 million for the year ended December 31, 2022 is attributable to the Company's increased clinical trial activities as a result the resuming of patient enrollment in the Company's phase 2 clinical study of the prevention of postoperative abdominal adhesions and the initiation of enrollment in its phase 3 clinical study of the accelerated return of bowel function following gastrointestinal ("GI") surgery. Both of these studies, which had been virtually halted in early 2021, began clinical activities again at the end of 2021. The phase 2 clinical study of the prevention of postoperative abdominal adhesions began enrolling patients again in the second quarter of 2022 and the phase 3 clinical study of the accelerated return of bowel function following GI surgery began enrolling patients early in the third quarter of 2022. Accordingly, the majority of the increase in clinical operations expenses for the year ended December 31, 2022 compared to 2021 is the result of increased investigator site activations, clinical vendor charges, and consultant and contract labor charges, which increased by $1.1 million, $0.4 million and $0.3 million, respectively, compared to last year. Regulatory costs were higher by $0.2 million compared to last year concurrent with the Company receiving phase 3 clearance for its postoperative return of bowel function study. Also contributing to the year-over-year increase was higher drug manufacturing-related costs of $0.8 million for the year ended December 31, 2022 compared to 2021, primarily due to the scale up, and process and analytical method optimization associated with the production and packaging of LB1148. Net research and development employee-related costs increased by $1.6 million for the year ended December 31, 2022 compared to 2021 in line with the increased headcount to support the ramp up in clinical activities, which were offset by a $0.3 decrease in stock-based compensation expense for the year ended December 31, 2022 compared to 2021.

As previously disclosed, in the fourth quarter of 2022 the Company paused its Phase 3 study and is now directing its clinical focus to the continued advancement of its U.S. Phase 2 adhesions study.

In-Process Research and Development

For the year ended December 31, 2021, the Company recognized an in-process research and development expense of $30.1 million associated with the Merger. There was no such expense for the year ended December 31, 2022.

General and Administrative Expenses

General and administrative expenses decreased by approximately $0.5 million, or 6%, from $9.3 million for the year ended December 31, 2021 to $8.8 million for the year ended December 31, 2022, primarily as a result of a year-over-year decrease in stock-based compensation expense of $0.6 million. The decrease in stock-based compensation expense in 2022 compared to 2021 was due to (i) a $0.4 million incremental expense recognized in the fourth quarter of 2021 due to the modification of certain outstanding stock options and (ii) approximately $0.2 million of expense recognized in the second quarter of 2021 related to stock options granted to executive management as a result of the successful completion of the Merger; neither of which recurred in 2022.

Increased general and administrative expenses associated with operating as a public company for the full twelve-month period, as compared to the 8-month post-Merger period that the Company's accounting predecessor, LBS, was public, included (i) insurance costs associated with being a public company, which were $0.4 million higher for the year ended December 31, 2022 compared to 2021, (ii) professional fees and investor relations fees, which were higher by $0.1 million for the year ended December 31, 2022 compared to 2021, and (iii) shareholder services costs which were higher by $0.1 million for the year ended December 31, 2022 compared to 2021. These increases were largely offset by cost-saving opportunities implemented by the Company in the third and fourth quarters of 2022, including those associated with the cost-reduction plan announced on September 9, 2022, which are expected to continue in 2023.

Restructuring Expenses

The Company has recognized restructuring costs of $0.4 million for the year ended December 31, 2022, consisting of severance and benefits payments pursuant to employment agreements and the execution of severance and release agreements with employees terminated under a cost-reduction plan announced on September 9, 2022. There were no

restructuring costs or related liabilities recognized for the year ended December 31, 2021. The Company does not expect to incur any other significant costs associated with the cost reduction-plan announced on September 9, 2022.

Other income (expense)

Other income, net decreased by $13.8 million, or 90%, to $1.5 million for the year ended December 31, 2022 from $15.2 million for the year ended December 31, 2021. The year ended December 31, 2021 included net other expenses of $2.2 million for which there were no comparable expenses in the year ended December 31, 2022, including: (i) a $1.9 million loss recognized on the issuance of LBS Series 1 Preferred Stock, (ii) a $0.7 million non-cash loss recorded on the issuance of secured debt in connection with the discount given for the pre-Merger senior secured debt, (iii) a $0.3 million gain on the forgiveness of the Company's Paycheck Protection Program ("PPP") loan, and (iv) a $0.1 million gain on the change in the fair value of a share liability owed to a former Seneca shareholder.

The year ended December 31, 2022 includes a $2.4 million non-cash gain associated with the revaluation of liability-classified warrants in the period, which was partially offset by a $1.1 million non-cash loss on the issuance of warrants. On January 31, 2022 (the "Effective Date"), the Company entered into an agreement to irrevocably waive any adjustment to the exercise price of the certain warrants held by an investor from and after the Effective Date for the Company's issuances of equity or equity-linked securities at a price below the exercise price of the related warrants (the "January 2022 Waiver Agreement"). As consideration for this waiver, pursuant to the January 2022 Waiver Agreement, the Company issued the investor 45,000 warrants (the "January 2022 Warrants"). The $1.1 million non-cash loss on the issuance of the January 2022 Warrants represents the fair value of the warrants on the date of issuance, January 31, 2022. The year ended December 31, 2021 includes a $23.0 million non-cash gain associated with the revaluation of liability-classified warrants in the period, $3.9 million of which is attributable to a gain resulting from the modification of certain liability-classified warrants, partially offset by $3.2 million of costs associated with on the issuance of warrants in 2021.

The remainder of the net decrease in other income (expense), net, is due to lower interest expense for the year ended December 31, 2022 as the prior year period included a $1.6 million non-cash interest charge associated with a debt discount on pre-Merger debt, and increased interest expense of $0.8 million due to a higher debt balance outstanding during the year. Other income was approximately $0.1 million higher in 2022 as a result of higher interest rates on the Company's short-term investments of cash on hand, which were higher in 2022 due to the Company's increased financing activities.

Liquidity and Capital Resources

Since the Company's inception, it has financed its operations through the sales of its securities, issuance of long-term debt, the exercise of investor common stock warrants, and to a lesser degree grants and research contracts as well as the licensing of its intellectual property to third parties. Refer to the paragraph under the heading "*Going Concern*" in the Financial Overview section above for management's assessment of the Company’s ability to continue as a going concern.

Sources of Liquidity

Management expects the Company to incur substantial operating losses for the foreseeable future in order to complete clinical trials and launch and commercialize any product candidates for which it may receive regulatory approval. The Company will need to raise additional capital through a combination of equity offerings, debt financings, collaborations, and other similar arrangements. The Company’s ability to raise additional capital may be adversely impacted by (i) general political or economic conditions, (ii) inflation, (iii) rising interest rates, (iv) ongoing supply chain disruptions, (v) the ongoing conflict in the Ukraine, (vi) limited liquidity, defaults, non-performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry, (vii) or a resurgence of COVID-19, COVID-19 variants, or another pandemic. In the event the Company is unable to access additional capital, it may need to curtail or greatly reduce its operations, which could have an adverse impact on its business, financial condition, and results of operations.

Recent Financings

May 2022 Registered Direct Offering

On May 6, 2022, the Company entered into securities purchase agreements with certain investors pursuant to which it agreed to sell and issue, in a registered direct offering (the "May 2022 Registered Direct Offering"), an aggregate of 72,935 shares of its common stock, par value $0.01 per share, at a purchase price of $27.50 per share (all amounts adjusted for Reverse Stock Split) and, in a concurrent private placement, also agreed to sell and issue to such purchasers warrants (the "May 2022 Purchase Warrants") to purchase up to 72,935 shares of common stock.

In connection with the May 2022 Registered Direct Offering and concurrent private placement transaction, the Company engaged a placement agent. The Company issued placement agent warrants ("May 2022 Placement Agent Warrants") to purchase an aggregate of 4,376 shares of its common stock. The May 2022 Placement Agent Warrants and the May 2022 Purchase Warrants are referred to collectively as the May 2022 Warrants.

The net cash proceeds from the May 2022 Registered Direct Offering of $1.4 million consisted of gross cash proceeds of $2.0 million less equity issuance costs of approximately $0.6 million.

August 2022 Public Offering

On August 16, 2022, the Company closed on a registered public offering pursuant to which the Company agreed to issue and sell (i) 987,200 shares of the Company's common stock, par value $0.01 per share, (ii) 1,460 shares of Series B Convertible Preferred Stock, of which each share is convertible into 80 shares of the Company's common stock, (iii) 1,104,000 Series 1 warrants with a term of one year from the date of issuance ("Series 1 Warrant") to purchase one share of the Company's common stock, and (iv) 1,104,000 Series 2 warrants with a term of five years from the date of issuance ("Series 2 Warrant") to purchase one share of the Company's common stock (the "August 2022 Public Offering"). The warrants became exercisable beginning on the date of stockholder approval of the exercisability of the warrants, which was received on October 6, 2022. Gross proceeds from the August 2022 Public Offering, including the full exercise of the underwriter overallotment option, were $13.8 million and net proceeds were approximately $11.5 million after deducting equity issuance costs of $2.3 million, which includes the underwriter discount, professional fees, and the fair value of the warrants issued to the underwriter of the August 2022 Public Offering, Ladenburg Thalmann & Co. Inc. (the "Underwriter"). All shares of the Series B Convertible Preferred Stock have been converted into shares of the Company's common stock as of December 31, 2022.

January 2023 Registered Direct Offering and Private Placement

On January 4, 2023, the Company announced that it had closed on a previously announced agreement with certain institutional and accredited investors pursuant to which it agreed to sell and issue, in a registered direct offering (the "Registered Offering"), an aggregate of (i) 476,842 shares of the Company's common stock, par value $0.01 per share, at a purchase price per share of $2.375, and (ii) 37,000 pre-funded warrants to purchase shares of the Company's common stock at a purchase price of $2.3749, with such warrants having an exercise price of $0.0001 per share and a perpetual term. Additionally, in a concurrent private placement, the Company also agreed to sell and issue to such purchasers, an aggregate of (i) 538,789 pre-funded warrants to purchase shares of the Company's common stock at an exercise price of $0.0001 per share, and a perpetual term; and (ii) 1,052,631 warrants to purchase shares of the Company's common stock at an exercise price of $2.375 per share and a term of five (5) years (collectively, the "January 2023 Offering"). All of the warrants are immediately exercisable from their date of issuance.

Pursuant to a placement agency agreement dated as of December 30, 2022, the Company engaged Ladenburg Thalmann & Co. Inc. (the "Placement Agent"), to act as the exclusive placement agent in connection with the Registered Offering and concurrent private placement transaction. The Company issued warrants to the Placement Agent to purchase an aggregate of 63,158 shares of the Company's common stock (the "Placement Agent Warrants"). The Placement Agent Warrants have an exercise price of $2.9688 per share and a term of five (5) years. The Placement Agent Warrants are immediately exercisable from issuance.

Gross proceeds from the January 2023 Offering were $2.5 million and net proceeds are expected to be approximately $2.1 million after deducting equity issuance costs of approximately $0.4 million.

Warrant Exercises

As of December 31, 2022, holders of 1.4 million Series 1 and Series 2 common stock purchase warrants issued pursuant to the August 2022 Public Offering have exercised such warrants for gross cash proceeds of $3.68 million, $1.4 million of which was receivable to the Company as of December 31, 2022. Subsequent to December 31, 2022, an additional 0.5 million Series 1 and Series 2 common stock warrants have been exercised for additional gross cash proceeds of $1.2 million.

The Company intends to use the net proceeds from its recent equity financings for working capital and general corporate purposes, including the development of the Company's lead product candidate LB1148. With the additional cash proceeds of $4.7 million received subsequent to year end as a result of the January 2023 Offering, and cash received from Series 1 and Series 2 warrant exercises, combined with the Company's cash and cash equivalents balance of $12.4 million as of December 31, 2022, the Company believes it has sufficient cash to fund its operations and clinical programs beyond its U.S. Phase 2 adhesions study topline data readout expected in the second quarter of 2023, and into mid-2024.

Cash Flows

As of December 31, 2022, the Company had $12.4 million in cash, cash equivalents and restricted cash. The following table shows a summary of the Company's cash flows for the years ended December 31, 2022 and 2021 (in thousands):

	Year Ended December 31,	
	2022	2021
Net cash used in operating activities	$ (13,360)	$ (14,773)
Net cash used in investing activities	$ (10)	$ (54)
Net cash provided by financing activities	$ 15,258	$ 24,609

Net Cash Used in Operating Activities

Cash used in operating activities of $13.4 million for the year ended December 31, 2022 reflects a $14.3 million net loss adjusted for $1.3 million of net cash inflows related to changes in operating assets and liabilities, and certain non-cash items including: (i) a $1.1 million loss recognized from the issuance of the January 2022 Warrants, (ii) a $2.4 million gain recognized for the change in the fair market value of the warrant liabilities in the period, and (iii) a $1.0 million non-cash expense recognized for stock-based compensation.

Cash used in operating activities of $14.8 million for the year ended December 31, 2021 includes a $26.6 million net loss adjusted for $4.8 million of net cash outflows related to changes in operating assets and liabilities, and certain non-cash items including: (i) $0.3 million gain on forgiveness of the PPP loan, (ii) $1.7 million in costs allocated to the warrant issuances not related to the Merger, (iii) $1.9 million non-cash expense for stock-based compensation, (iv) $23.0 million gain recorded for the change in the fair market value of the warrant liabilities in the period, of which $3.9 million resulted from the modification of certain liability-classified warrants, (v) $0.1 million gain recorded for the change in the fair market value of the share liability, and (vi) $0.7 million loss on the issuance of the senior secured debt. Additionally, the year ended December 31, 2021 includes net non-cash expenses of $35.7 million, which were incurred directly in connection with the Merger.

Net Cash Used in Investing Activities

For the year ended December 31, 2022, cash used in investing activities consisted of approximately $10,000 used to purchase property and equipment, primarily leasehold improvements. For the year ended December 31, 2021, cash used in investing activities consisted of $3.3 million in cash acquired in connection with the Merger that was more than offset by $3.3 million of cash used to pay for acquisition related costs in 2021.

Net Cash Provided by Financing Activities

For the year ended December 31, 2022, cash provided by financing activities of $15.3 million was attributable to cash proceeds of $1.8 million from the May 2022 Registered Direct Offering and $12.6 million from the August 2022 Public Offering and cash proceeds from the redemption of Series 1 and Series 2 warrants, partially offset by payments

of equity issuance costs of $0.6 million during the year and payments made on the Company's insurance financing arrangements of $0.8 million during the year.

For the year ended December 31, 2021, cash provided by financing activities of $24.6 million consisted of $19.9 million in net proceeds from the issuance of LBS Series 1 Preferred Stock, $5.2 million in net proceeds from the issuance of common stock and warrants, and $1.3 million in proceeds from the issuance of senior secured debt. These increases were partially offset by payments on debt of $1.4 million, redemption of warrants of $0.1 million, payment of debt issuance costs of $0.2 million and payment of equity issuance costs of $0.1 million.

Contractual Obligations

Office Lease

On May 12, 2022, the Company entered into a new, non-cancelable facility operating lease (the "Corporate Office Lease") of office space for its corporate headquarters, replacing its existing corporate headquarters lease that expired on July 31, 2022. The Corporate Office Lease is for 2,747 square feet of an office building in Carlsbad, California. The initial contractual term is for 39-months commencing on June 1, 2022 and expiring on August 31, 2025. The Company has the option to renew the Corporate Office Lease for an additional 36-month period at the prevailing market rent upon completion of the initial lease term. The Company has determined it is not reasonably certain that it will exercise this renewal option.

Commencing on June 1, 2022, the Company is subject to contractual monthly lease payments of $10,850, plus certain utilities, for the first 12 months with 3 percent escalations at the first, second and third lease commencement anniversaries. As of December 31, 2022, the total remaining future minimum lease payments associated with the Corporate Office Lease of approximately $316,000, less imputed interest of $46,000, will be paid over the remaining lease term of approximately 2.7 years.

Insurance Financing Arrangements

Consistent with past practice, on May 9, 2022 and May 24, 2022, the Company entered into agreements to finance certain insurance policies which renewed in April 2022 and May 2022. The financing arrangements entered into on May 9, 2022 and May 24, 2022 have stated interest rates of 3.82% and 6.92%, respectively, and are payable over a 9-month period and 10-month period, respectively, with the first payment commencing May 27, 2022. The insurance financing arrangements are secured by the associated insurance policies. As of December 31, 2022, the aggregate remaining balance under the Company's insurance financing arrangements was $88,000.

Other than the final insurance financing arrangements payments due, as of December 31, 2022, the Company has no other minimum debt payments required in 2023 or thereafter.

Future Liquidity Needs

The Company has incurred significant operating losses and negative cash flows from operations since inception. To date, the Company has not been able to generate significant revenues nor achieve operating profitability. The Company plans to fund its current operating needs using cash on hand. The Company’s available cash as of the date of this filing will not be sufficient to fund its anticipated level of operations for the next 12 months and the Company will require additional financing by mid-2024 to continue at its expected level of operations. If the Company fails to obtain the needed capital, it will be forced to delay, scale back, or eliminate some or all of its development activities or perhaps cease operations.

Critical Accounting Policies and Estimates

The Company's consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (“U.S. GAAP”). The preparation of financial statements in conformity with U.S. GAAP requires the Company to make estimates, judgments, and assumptions that impact the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the balance sheet and the reported amounts of expenses during the reporting period. The Company’s estimates are based on historical experience, known trends, events and various other factors that it believes are reasonable under the

circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. In making estimates and judgments, management employs critical accounting policies.

The Company's significant accounting policies used in the preparation of the consolidated financial statements are described in more detail in Note 2 in Part II, Item 8. "Financial Statement and Supplemental Data" of this Annual Report on Form 10-K. However, the Company believes that the following accounting policies are the most critical for fully understanding and evaluating our financial condition and results of operations:

Accrued research and development expenses

The Company is required to make estimates of our accrued expenses resulting from our obligations under contracts with CROs, clinical sites, manufacturers, vendors and consultants, in connection with conducting research and development activities. This process involves reviewing open contracts and purchase requisitions, communicating with Company personnel and consultants to identify services that have been performed on the Company's behalf, and estimating the level of service performed and the associated cost incurred for the service when the Company has not yet been invoiced or otherwise notified of the actual cost. The majority of the Company's service providers invoice the Company monthly in arrears for services performed or when contractual milestones are met. The Company makes estimates of its accrued expenses as of each balance sheet date based on facts and circumstances known to it at that time.

The financial terms of the Company's contracts with CROs, clinical sites, manufacturers, vendors and consultants are subject to negotiation and vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. The Company reflects research and development expenses associated with its clinical trial activities by matching those expenses with the period in which the Company estimates services and efforts are expended. The Company accounts for research and development expenses according to the progress of the underlying study as measured by the timing of various aspects of the study or related activities, such as the successful enrollment of subjects and the completion of clinical study milestones. In accruing service fees, the Company estimates the time period over which services will be performed and the level of effort to be expended in each period and adjusts accordingly. There may be instances in which payments made to the Company's vendors will exceed the level of services provided and result in a prepayment of the clinical expense.

Other examples of estimated accrued research and development expenses include fees paid to:

- investigative sites in connection with clinical studies;
- vendors in connection with preclinical development activities; and
- vendors related to the development, manufacturing, and distribution of clinical trial materials.

Although the Company does not expect its estimates to be materially different from amounts actually incurred, if the Company's estimates of the status and timing of services performed differ from the actual status and timing of services performed, it could result in the Company reporting amounts that are too high or too low in any particular period.

Derivative Financial Instruments

The Company does not use derivative instruments to hedge exposures to cash flow, market, or foreign currency risks. The Company evaluates its financial instruments, including warrants, to determine if such instruments are derivatives or contain features that qualify as embedded derivatives. The Company values its derivatives using the Black-Scholes option pricing model or the Monte-Carlo simulation model when a variety of future events and outcomes is required to be factored into the valuation based on the terms of the underlying derivative instrument. Derivative instruments are valued at inception, upon events such as an exercise of the underlying financial instrument, and at subsequent reporting periods. The classification of derivative instruments, including whether such instruments should be recorded as liabilities, is re-assessed at the end of each reporting period.

The Company reviews the terms of debt instruments, equity instruments, and other financing arrangements to determine whether there are embedded derivative features, including embedded conversion options that are required

to be bifurcated and accounted for separately as a derivative financial instrument. Additionally, in connection with the issuance of financing instruments, the Company may issue freestanding options and warrants.

The Company accounts for its common stock warrants in accordance with ASC 480, *Distinguishing Liabilities from Equity* ("ASC 480") and ASC 815, *Derivatives and Hedging* ("ASC 815"). Based upon the provisions of ASC 480 and ASC 815, the Company accounts for common stock warrants as liabilities if the warrant requires net cash settlement or gives the holder the option of net cash settlement, or it fails the equity classification criteria. The Company accounts for common stock warrants as equity if the contract requires physical settlement or net physical settlement or if the Company has the option of physical settlement or net physical settlement and the warrants meet the requirements to be classified as equity. Common stock warrants classified as liabilities are initially recorded at fair value on the grant date and remeasured at fair value at each balance sheet date with the offsetting adjustments recorded in change in fair value of warrant liability within the consolidated statements of operations. If the terms of a common stock warrant previously classified as a liability are amended and pursuant to such amendment meet the requirements to be classified as equity, the common stock warrants are reclassified to equity at the fair value on the date of the amendment and are not subsequently remeasured. Common stock warrants classified as equity are recorded on a relative fair value basis when they are issued with other equity classified financial instruments.

See Note 6 in the consolidated financial statements of this Annual Report on Form 10-K for additional information and specific assumptions used in applying the Black-Scholes option pricing model and the Monte Carlo simulation valuation model to determine the estimated fair value of the Company's liability-classified warrants issued in the years ended December 31, 2022 and 2021. As of December 31, 2022 and 2021, the Company's liability-classified warrants had a fair value of $0.1 million and $2.7 million, respectively, and in the years ended December 31, 2022 and 2021, the Company recognized gains associated with the change in fair value of warrants of $2.4 million and $23.0 million, respectively. The significant decrease in the fair value of the Company's liability-classified warrants from December 31, 2021 to December 31, 2022 was the result of the $2.4 million decrease in the fair value of the outstanding warrants, due primarily to a significant decrease in the market price of Company's common stock over the period, and a $1.3 million decrease due to the fair value of warrants exercised in the period, partially offset by the initial fair value of liability-classified warrants issued during the year.

Recently Adopted Accounting Pronouncements

See Note 2 to the consolidated financial statements included elsewhere in this report.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

As a smaller reporting company, we are not required to provide the information required by this Item.

Item 8. Financial Statements and Supplementary Data.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors
Palisade Bio, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Palisade Bio, Inc. (the "Company") as of December 31, 2022, and the related consolidated statement of operations, convertible preferred stock and stockholders' equity (deficit), and cash flows for the year then ended, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

Going Concern Uncertainty

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As described in Note 1 to the financial statements, the Company has suffered recurring losses from operations and has a net capital deficiency that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Accounting for Complex Financial Instruments

As described in Notes 7 and 8 to the consolidated financial statements, the Company executed several transactions during the year that included the issuance of convertible preferred stock and warrants.

We identified the accounting for these complex financial instruments as a critical audit matter. This includes both the evaluation of the various features as potential embedded derivatives and the determination of the respective fair value of the instruments and embedded features. The application of the accounting guidance applicable to the transactions is complex, and therefore, applying such guidance to the contract terms is complex and requires significant management judgement. Auditing these elements involved especially complex auditor judgement due to the nature of the terms of these instruments, and the effort required to address these matters, including the extent of specialized skills and knowledge required.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included, among others:

- Inspecting the agreements associated with the transactions and evaluating the completeness and accuracy of the Company's technical accounting analysis, including the identification of potential embedded derivatives, and the application of the relevant accounting literature.

- Utilizing personnel with specialized knowledge and skills in technical accounting matters and in the determination of fair valuation to assist in assessing management's analysis of the transactions, including (i) evaluating the contracts to identify relevant terms that affect the recognition of the financial instruments in the consolidated financial statements, and (ii) assessing the appropriateness of conclusions reached by management.

/s/ Baker Tilly US, LLP

We have served as the Company's auditor since 2022.
Tewksbury, Massachusetts
March 22, 2023

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Shareholders and Board of Directors
Palisade Bio, Inc.
Carlsbad, California

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheet of Palisade Bio, Inc. (the "Company") as of December 31, 2021, the related consolidated statements of operations, statements of convertible preferred stock and stockholders' equity (deficit), and cash flows for the year then ended, and the related notes (collectively referred to as the "consolidated financial statements.") In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2021, and the results of its operations and its cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

Going Concern Uncertainty

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As described in Note 1 to the financial statements, the Company has suffered recurring losses from operations and has a net capital deficiency that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ BDO USA, LLP

We served as the Company's auditor from 2017 to 2022.

San Diego, California
March 17, 2022, except for the immaterial revision to previously issued financial statements as described in Note 3 and the impact of the reverse stock split on the 2021 financial statements as described in Note 2, as to which date is March 22, 2023

Palisade Bio, Inc.
Consolidated Balance Sheets
(in thousands, except share and per share amounts)

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 12,383	$ 10,495
Prepaid expenses and other current assets	2,350	1,011
Total current assets	14,733	11,506
Restricted cash	26	26
Property and equipment, net	10	3
Right-of-use asset	300	109
Other noncurrent assets	694	868
Total assets	$ 15,763	$ 12,512
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,759	$ 1,323
Accrued liabilities	574	463
Accrued compensation and benefits	486	511
Current portion of lease liability	105	112
Debt	88	87
Total current liabilities	3,012	2,496
Warrant liability	61	2,651
Lease liability, net of current portion	211	—
Total liabilities	3,284	5,147
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Series A Convertible Preferred Stock, 7,000,000 shares authorized, $0.01 par value; 200,000 issued and outstanding at December 31, 2022 and December 31, 2021	2	2
Common stock, $0.01 par value; 280,000,000 shares and 300,000,000 authorized as of December 31, 2022 and December 31, 2021, respectively 2,944,306 and 284,780 shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	30	3
Additional paid-in capital	121,637	102,002
Accumulated deficit	(109,190)	(94,642)
Total stockholders' equity	12,479	7,365
Total liabilities and stockholders' equity	$ 15,763	$ 12,512

The accompanying notes are an integral part of these consolidated financial statements.

Palisade Bio, Inc.
Consolidated Statements of Operations
(in thousands, except share and per share amounts)

	Year Ended December 31,	
	2022	2021
Operating expenses:		
Research and development	$ 6,547	$ 2,430
In-process research and development	—	30,117
General and administrative	8,764	9,307
Restructuring costs (Note 11)	410	—
Total operating expenses	15,721	41,854
Loss from operations	(15,721)	(41,854)
Other income (expense):		
Gain on forgiveness of PPP loan	—	279
Loss on issuance of secured debt	—	(686)
Gain on change in fair value of warrant liability	2,426	23,033
Gain on change in fair value of share liability	—	91
Interest expense	(13)	(2,398)
Other income	158	47
Loss on issuance of Leading Biosciences, Inc. Series 1 Preferred Stock	—	(1,881)
Loss on issuance of warrants	(1,110)	(3,247)
Total other income, net	1,461	15,238
Net loss	$ (14,260)	$ (26,616)
Loss per common share*:		
Basic	$ (16.53)	$ (142.95)
Diluted	$ (16.53)	$ (169.74)
Weighted average shares used in computing loss per common share:		
Basic	880,311	186,195
Diluted	880,311	186,958
Net loss attributable to common shares - basic	$ (14,548)	$ (26,616)
Net loss attributable to common shares - diluted	$ (14,548)	$ (31,735)

(*) Basic and diluted loss per common share for the year ended December 31, 2021 adjusted to reflect the 1-for-50 reverse stock split effected on November 16, 2022.

The accompanying notes are an integral part of these consolidated financial statements.

Palisade Bio, Inc.
Consolidated Statements Convertible Preferred Stock and Stockholders' Equity (Deficit)
(in thousands, except share amounts)

	Year Ended December 31, 2022								
	Series B Convertible Preferred Stock		Preferred Stock		Common Stock		Additional Paid-in Capital*	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Shares*	Amount*			
Balance, December 31, 2021	—	$ —	200,000	$ 2	284,780	$ 3	$ 102,002	$ (94,642)	$ 7,365
Net loss	—	—	—	—	—	—	—	(14,260)	(14,260)
Stock-based compensation expense	—	—	—	—	—	—	1,032	—	1,032
Issuance of common stock upon warrant exercises	—	—	—	—	1,482,684	15	4,941	—	4,956
Issuance of common stock and warrants in May 2022 Registered Direct Offering, net of issuance costs of $634 (Note 7)	—	—	—	—	72,933	1	1,426	—	1,427
Issuance of Class A Units and Class B Units in August 2022 Public Offering, net of issuance costs of $2,293 (Note 7)	1,460	—	—	—	987,200	10	11,949	—	11,959
Issuance of common stock upon conversion of Series B Convertible Preferred Stock	(1,460)	—	—	—	116,800	1	(1)	—	—
Reverse stock split fractional share settlement	—	—	—	—	(91)	—	—	—	—
Adjustment to record the impact of exercise price reset on outstanding warrants related to down round provisions	—	—	—	—	—	—	288	(288)	—
Balance, December 31, 2022	—	$ —	200,000	$ 2	2,944,306	$ 30	$ 121,637	$ (109,190)	$ 12,479

(*) Adjusted to reflect the 1-for-50 reverse stock split effected on November 16, 2022.

The accompanying notes are an integral part of these consolidated financial statements.

Palisade Bio, Inc.
Consolidated Statements Convertible Preferred Stock and Stockholders' Equity (Deficit)
(in thousands, except share amounts)

	Year Ended December 31, 2021								
	Series C Convertible Preferred Stock		Preferred Stock		Common Stock		Additional Paid-in Capital*	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Shares*	Amount*			
Balance, December 31, 2020	11,674,131	$ 9,503	—	$ —	55,490	$ 1	$ 51,423	$ (68,026)	$ (16,602)
Net loss	—	—	—	—	—	—	—	(26,616)	(26,616)
Stock-based compensation expense	—	—	—	—	—	—	1,891	—	1,891
Issuance of common stock to vendor	—	—	—	—	2,376	—	1,184	—	1,184
Issuance of common stock warrants related to promissory note	—	—	—	—	—	—	16	—	16
Issuance of Leading Biosciences, Inc. Series 1 Preferred shares upon conversion of senior secured debt	—	—	786,957	—	—	—	2,421	—	2,421
Issuance of Leading Biosciences, Inc. Series 1 Preferred shares	—	—	4,516,611	—	—	—	—	—	—
Conversion of Leading Biosciences, Inc. Series 1 Preferred stock to common shares upon Merger	—	—	(5,303,568)	—	106,071	1	(1)	—	—
Conversion of Leading Biosciences, Inc. Series C Convertible Preferred shares to common shares upon Merger	(11,674,131)	(9,503)	—	—	6,348	—	9,503	—	9,503
Issuance of common shares to former shareholders of Seneca upon Merger	—	—	—	—	57,687	1	28,727	—	28,728
Acquisition of Seneca Series A Convertible Preferred Stock upon Merger	—	—	200,000	2	—	—	—	—	2
Equity warrant put rights activated upon Merger	—	—	—	—	—	—	(51)	—	(51)
Expiration of put rights on equity classified warrants	—	—	—	—	—	—	26	—	26
Issuance of common stock upon warrant exercises	—	—	—	—	26,185	—	1,689	—	1,689
Issuance of common stock and warrants in private placement, net of issuance costs of $67	—	—	—	—	30,197	—	5,141	—	5,141
Conversion of share liability to common stock	—	—	—	—	250	—	33	—	33
Conversion of restricted stock units to common stock	—	—	—	—	176	—	—	—	—
Balance, December 31, 2021	—	$ —	200,000	$ 2	284,780	$ 3	$ 102,002	$ (94,642)	$ 7,365

(*) Adjusted to reflect the 1-for-50 reverse stock split effected on November 16, 2022.

The accompanying notes are an integral part of these consolidated financial statements.

Palisade Bio, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,	
	2022	**2021**
Net loss	$ (14,260)	$ (26,616)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	3	2
In-process research and development	—	30,117
Noncash transaction costs shared with Seneca	—	(135)
Noncash lease expense	164	166
Gain on forgiveness of PPP loan	—	(279)
Accretion of debt discount and non-cash interest expense	—	2,339
Loss on issuance of LBS Series 1 Preferred Stock	—	1,881
Loss on issuance of secured debt	—	686
Loss on issuance of warrants	1,110	3,247
Change in fair value of warrant liabilities	(2,426)	(23,033)
Change in fair value of share liability	—	(91)
Stock-based compensation	1,032	1,891
Other	(233)	(192)
Changes in operating assets and liabilities:		
Other receivables	—	84
Prepaid and other assets and other noncurrent assets	1,027	(1,157)
Accounts payable and accrued liabilities	399	(2,395)
Accrued compensation	(25)	(1,120)
Operating lease liabilities	(151)	(168)
Net cash used in operating activities	(13,360)	(14,773)
Cash flows from investing activities:		
Cash acquired in connection with the Merger	—	3,279
Acquisition related costs paid	—	(3,333)
Purchases of property and equipment	(10)	—
Net cash used in investing activities	(10)	(54)
Cash flows from financing activities:		
Payments on debt	(790)	(1,433)
Proceeds from issuance of debt	—	1,250
Proceeds from issuance of Leading Biosciences, Inc. Series 1 Preferred Stock	—	19,900
Proceeds from issuance of common stock and warrants	14,401	5,209
Proceeds (payments) from the redemption of warrants	2,274	(99)
Payment of equity issuance costs	(627)	(67)
Payment of debt issuance costs	—	(151)
Net cash provided by financing activities	15,258	24,609
Net (decrease) increase in cash, cash equivalents and restricted cash	1,888	9,782
Cash, cash equivalents and restricted cash, beginning of period	10,521	739
Cash, cash equivalents and restricted cash, end of period	$ 12,409	$ 10,521
Reconciliation of cash, cash equivalents and restricted cash to the balance sheets:		
Cash and cash equivalents	$ 12,383	$ 10,495
Restricted cash	26	26
Total cash, cash equivalents and restricted cash	$ 12,409	$ 10,521

The accompanying notes are an integral part of these consolidated financial statements.

Palisade Bio, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,	
	2022	2021
Supplemental disclosures of cash flow information:		
Interest paid	$ 12	$ 64
Right-of-use assets obtained in exchange for lease liabilities	$ 355	$ —
Supplemental disclosures of non-cash investing and financing activities:		
Equity issuance costs included in accounts payable and accrued liabilities	$ 388	$ —
Non cash impact of exercise price reset on outstanding warrants related to down round provisions	$ 288	$ —
Issuance of common stock for the cashless exercise of warrants	$ 1,274	$ 1,689
Fair value of warrants issued to placement agent	$ 55	$ —
Fair value of warrants issued to underwriter agent	$ 459	$ —
Issuance of common stock upon conversion of Series B Convertible Preferred Stock	$ 1	$ —
Insurance financing arrangements included in prepaid and other assets and other noncurrent assets	$ 784	$ 772
Cash receivable for exercises of warrants included in prepaid and other current assets	$ 1,408	$ —
Transaction costs shared with Seneca	$ —	$ 135
Acquisition costs related to stock issuance	$ —	$ 1,184
Issuance of common stock to former Seneca stockholders	$ —	$ 28,728
Conversion of LBS Series C Convertible Preferred stock into common stock	$ —	$ 9,503
Net assets acquired in the Merger	$ —	$ 2
Acquisition related vesting of RSU's assumed in the Merger	$ —	$ 41
Acquisition related fair value change in warrant liability assumed in the Merger	$ —	$ 51

The accompanying notes are an integral part of these consolidated financial statements.

Palisade Bio, Inc.
Notes To Consolidated Financial Statements

1. Organization and Business

The Merger

On April 27, 2021, Leading Biosciences, Inc. (“LBS”) became a wholly owned subsidiary of Seneca Biopharma Inc. (“Seneca”) in accordance with the terms of the agreement and plan of merger and reorganization, dated as of December 16, 2020, (the “Merger Agreement”) by and among Seneca, Townsgate Acquisition Sub 1, Inc., a wholly owned subsidiary of Seneca (“Merger Sub”), and LBS, pursuant to which Merger Sub merged with and into LBS, with LBS surviving as a wholly owned subsidiary of Seneca (the “Merger”). Concurrent with the closing of the Merger, LBS outstanding common stock, common stock warrants and stock options for the purchase of LBS common stock were exchanged for Seneca common stock, Seneca common stock warrants, and options for the purchase of Seneca common stock, at a ratio of 0.02719 shares of LBS common stock equivalents to one share of Seneca common stock equivalents (the “Exchange Ratio”). Immediately following the Merger, Seneca changed its name to “Palisade Bio, Inc.”

Unless the context otherwise requires, references to the “Company,” “Palisade,” “Palisade Bio,” “we,” “our” or “us” in this report refer to Palisade Bio, Inc. and its subsidiaries. In addition, references to “Seneca” or “LBS” refer to these entities prior to the completion of the Merger.

Description of Business

The Company is a biopharmaceutical company focused on developing therapeutics that protect the integrity of the intestinal barrier. The Company's lead therapeutic candidate, LB1148, is a novel oral liquid formulation of the well-characterized digestive enzyme inhibitor tranexamic acid (“TXA”) that is currently being developed for administration prior to surgeries that are at risk of disrupting the intestinal epithelial barrier. By inhibiting the activity of digestive proteases, the Company believes that LB1148 has the potential to reduce the formation of postoperative adhesions between intra-abdominal tissues and accelerate the time to the return of normal gastrointestinal ("GI") function.

Liquidity and Going Concern

The Company has a limited operating history, and the sales and income potential of the Company’s business and market are unproven. The Company has experienced operating losses and negative cash flows from operations since its inception. At December 31, 2022, the Company had an accumulated deficit of $109.2 million and cash and cash equivalents of $12.4 million. The Company expects to continue to incur operating losses into the foreseeable future. The successful transition to attaining profitable operations is dependent upon achieving a level of revenues adequate to support the Company’s cost structure.

Based on the Company’s current working capital, anticipated operating expenses, and anticipated net operating losses, there is substantial doubt about the Company's ability to continue as a going concern for a period of one year following the date that these consolidated financial statements are issued. The consolidated financial statements have been prepared assuming the Company will continue as a going concern, which contemplates the realization of assets and settlement of liabilities in the normal course of business. The consolidated financial statements do not include any adjustments for the recovery and classification of assets or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

Historically, the Company has funded its operations primarily through a combination of debt and equity financings. The Company plans to continue to fund its operations through cash and cash equivalents on hand, as well as through future equity offerings, debt financings, other third-party funding, and potential licensing or collaboration arrangements. Refer to Note 7, Stockholders' Equity (Deficit) and Note 15, Subsequent Events, for discussion of the recent financings undertaken by the Company. There can be no assurance that additional funds will be available when needed from any source or, if available, will be available on terms that are acceptable to the Company. Even if the Company raises additional capital, it may also be required to modify, delay or abandon some of its plans which could have a material adverse effect on the Company's business, operating results and financial condition and the Company's ability to achieve its intended business objectives. Any of these actions could materially harm the Company's business, results of operations and future prospects.

COVID-19

In April 2020, as a result of impacts and risks associated with the COVID-19 pandemic ("COVID-19"), the Company paused enrollment and program activities surrounding the Company's clinical trials of its lead therapeutic candidate, LB1148, due primarily to slower enrollment. The Company's U.S. Phase 2 clinical study for the prevention of postoperative abdominal adhesions re-started in February 2022, and in June 2022 the Company initiated its U.S. Phase 3 clinical study for the return of bowel function. Notwithstanding, in the fourth quarter of 2022 the Company paused enrollment in the U.S Phase 3 clinical study for the return of bowel function upon determining that the study's protocol requires additional standardization across sites and further clarification in the definition of endpoints to permit an adequate assessment of the efficacy of LB1148 to recover GI function. The Company is currently assessing the next steps for the study. The Company cannot predict how legal and regulatory responses to ongoing concerns about COVID-19 or other major public health issues will impact the Company's business, nor can it predict potential adverse impacts related to the availability of capital to fund the Company's operations. Any of these factors, alone or in combination with others, could harm the Company's business, results of operations, financial condition or liquidity. However, the magnitude, timing, and duration of any such potential financial impacts cannot be reasonably estimated at this time.

2. Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

The consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP"). Dollar amounts contained in these consolidated financial statements are in whole numbers, unless otherwise indicated.

The accompanying consolidated financial statements prior to the closing of the Merger are representative of LBS's operations as LBS was determined to be the accounting acquirer for financial reporting purposes. The consolidated financial statements subsequent to the closing of the Merger include the accounts of the Company and its wholly owned subsidiaries, Leading Biosciences, Inc. and Suzhou Neuralstem Biopharmaceutical Co., Ltd. All the entities are consolidated in the Company's consolidated financial statements and all intercompany activity and transactions, if any, have been eliminated.

Reverse Stock Split

On November 15, 2022, the Company effected a 1-for-50 reverse stock split of its issued and outstanding common stock (the "Reverse Stock Split"). As a result of the Reverse Stock Split, each of the Company's shareholders received one new share of common stock for every 50 shares such shareholder held immediately prior to the effective time of the Reverse Stock Split. The Reverse Stock Split affected all the Company's issued and outstanding shares of common stock equally. The par value and authorized shares of the Company's common stock was not adjusted as a result of the Reverse Stock Split. The Reverse Split also affected the Company's outstanding stock options, common stock warrants and other exercisable or convertible securities and resulted in the shares underlying such instruments being reduced and the exercise price being increased proportionately. Unless otherwise noted, all common stock shares, common stock per share data and shares of common stock underlying convertible preferred stock, stock options and common stock warrants included in these financial statements, including the exercise price of such equity instruments, as applicable, have been retrospectively adjusted to reflect the effect of the Reverse Stock Split for all periods presented.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires the Company to make estimates, judgments, and assumptions that impact the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the balance sheet, and the reported amounts of expenses during the reporting period. The most significant estimates in the Company's consolidated financial statements relate to clinical trial accruals and its derivative financial instruments. Although these estimates are based on the Company's knowledge of current events and actions it may undertake in the future, actual results may materially differ from these estimates and assumptions.

Segment Information

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker, the Chief Executive Officer, in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business as one operating segment which consists of research and development activities.

Cash and Cash Equivalents

Cash and cash equivalents represent cash available in readily available checking and money market accounts. The Company considers all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

Restricted Cash

As of December 31, 2022 and December 31, 2021, the Company held restricted cash of $26,000, in a separate restricted bank account as collateral for the Company's corporate credit card program. The Company has classified these deposits as long-term restricted cash on its consolidated balance sheets.

Deferred Equity Issuance Costs

Deferred equity issuance costs consist of the legal, accounting and other direct and incremental costs incurred by the Company related to its equity offerings (refer to Note 15, Subsequent Events) or shelf registration statements. As of December 31, 2022, deferred equity issuance costs of $114,000 were included in prepaid expenses and other current assets in the consolidated balance sheets. There were no deferred equity issuance costs as of December 31, 2021. These costs will be netted against additional paid-in capital as a cost of the future equity issuances to which they relate.

Concentration of Credit Risk

Financial instruments, which potentially subject the Company to concentration of credit risk, consist primarily of cash and cash equivalents. The Company maintains deposits in federally insured financial institutions and in money market

accounts, and at times balances may exceed federally insured limits. Management believes that the Company is not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held nor has the Company experienced any losses in these accounts.

Convertible Preferred Stock

The Company's Series C Convertible Preferred Stock has been classified as temporary equity, in accordance with authoritative guidance of Accounting Standard Codification ("ASC") 480-10-S99 for the classification and measurement of potentially redeemable securities, as the Series C Convertible Preferred Stock are redeemable for cash or other assets upon the occurrence of an event that is not solely within the Company's control, including the liquidation, sale or transfer of control of the Company.

In connection with the Merger, the Series C Convertible Preferred Stock converted to the Company's common stock.

Fair Value of Financial Instruments

The Company's financial instruments consist principally of cash and cash equivalents, restricted cash, other current receivables, accounts payable, accrued liabilities, debt and liability-classified warrants. The carrying amounts of financial instruments such as cash equivalents, restricted cash, other current receivables, accounts payable, and accrued liabilities approximate their related fair values due to the short-term nature of these instruments. The carrying value of the Company's debt approximates its fair value due to the market rate of interest, which is based on level 2 inputs. The Company's liability-classified warrants are carried at fair value based on level 3 inputs as defined below. None of the Company's non-financial assets or liabilities are recorded at fair value on a nonrecurring basis.

The Company follows ASC 820, *Fair Value Measurements and Disclosures* which, among other things, defines fair value, establishes a consistent framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement determined based on assumptions that market participants would use in pricing an asset or liability.

As a basis for considering such assumptions, a three-tier fair value hierarchy has been established, which prioritizes the inputs used in measuring fair value as follows:

1) Level 1: observable inputs such as quoted prices (unadjusted) in active markets for identical assets or liabilities;
2) Level 2: inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and
3) Level 3: unobservable inputs for which there is little or no market data, which require the reporting entity to develop its own assumptions, which reflect those that a market participant would use.

Further information on the fair value of the Company's liability-classified financial warrants can be found at Note 6, Fair Value Measurements.

Derivative Financial Instruments

The Company does not use derivative instruments to hedge exposures to cash flow, market, or foreign currency risks. The Company evaluates its financial instruments, including warrants, to determine if such instruments are derivatives or contain features that qualify as embedded derivatives. The Company values its derivatives using the Black-Scholes option pricing model or other acceptable valuation models, including the Monte-Carlo simulation model. Derivative instruments are valued at inception, upon events such as an exercise of the underlying financial instrument, and at subsequent reporting periods. The classification of derivative instruments, including whether such instruments should be recorded as liabilities, is re-assessed at the end of each reporting period.

The Company reviews the terms of debt instruments, equity instruments, and other financing arrangements to determine whether there are embedded derivative features, including embedded conversion options that are required to be bifurcated and accounted for separately as a derivative financial instrument. Additionally, in connection with the issuance of financing instruments, the Company may issue freestanding options and warrants.

The Company accounts for its common stock warrants in accordance with ASC 480, Distinguishing Liabilities from Equity ("ASC 480") and ASC 815, Derivatives and Hedging ("ASC 815"). Based upon the provisions of ASC 480 and ASC 815, the Company accounts for common stock warrants as liabilities if the warrant requires net cash settlement or gives the holder the option of net cash settlement, or it fails the equity classification criteria. The Company accounts for common stock warrants as equity if the contract requires physical settlement or net physical settlement or if the Company has the option of physical settlement or net physical settlement and the warrants meet the requirements to be classified as equity. Common stock warrants classified as liabilities are initially recorded at fair value on the grant date and remeasured at fair value at each balance sheet date with the offsetting adjustments recorded in change in fair value of warrant liability within the consolidated statements of operations. If the terms of a common stock warrant previously classified as a liability are amended and pursuant to such amendment meet the requirements to be classified as equity, the common stock warrants are reclassified to equity at the fair value on the date of the amendment and are not subsequently remeasured. Common stock warrants classified as equity are recorded on a relative fair value basis when they are issued with other equity classified financial instruments.

Leases

In accordance with ASC 842, Leases, the Company assesses contracts for lease arrangements at inception. Operating right-of-use ("ROU") assets and liabilities are recognized at the lease commencement date equal to the present value of future lease payments using the implicit, if readily available, or incremental borrowing rate based on the information readily available at the commencement date. ROU assets include any lease payments as of commencement and initial direct costs but exclude any lease incentives. Lease and non-lease components are generally accounted for separately and the Company recognizes operating lease expense straight-line over the term of the lease.

Research and Development Costs

Research and development expenses consist primarily of salaries and benefits and other personnel related expenses including stock-based compensation costs, preclinical costs, clinical trial costs, costs related to acquiring and manufacturing clinical trial materials, and contract services. All research and development costs are expensed as incurred.

Clinical Trial Expenses

Expenses related to clinical studies are based on estimates of the services received and efforts expended pursuant to the Company's contract arrangements. The financial terms of these agreements are subject to negotiation, vary from contract to contract, and may result in uneven payment flows. There may be instances in which payments made to the Company's service providers will temporarily exceed the level of services provided and result in a prepayment of the clinical expense. Payments under some of these contracts depend on factors such as the successful enrollment of patients, site initiation and the completion of clinical milestones. The Company makes estimates of its accrued expenses as of each balance sheet date in its consolidated financial statements based on facts and circumstances known at that time. In accruing service fees, the Company estimates the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from its estimate, the Company adjusts the accrual or prepaid expense balance accordingly. As of December 31, 2022 and December 31, 2021, the Company has accrued for $184,000 and $158,000, respectively, in clinical trial expenses for which services have been provided but the Company has not yet been invoiced as of the balance sheet date. Clinical trial expenses are included in research and development expenses in the consolidated statements of operations.

Patent Costs

Costs related to filing and pursuing patent applications (including direct application fees, and the legal and consulting expenses related to making such applications) are expensed as incurred, as recoverability of such expenditures is uncertain. These costs are included in general and administrative expenses in the consolidated statements of operations.

Income Taxes

The Company follows the ASC 740, Income Taxes, or ASC Topic 740 ("ASC 740"), in reporting deferred income taxes. ASC 740 requires a company to recognize deferred tax assets and liabilities for expected future income tax consequences of events that have been recognized in the Company's consolidated financial statements. Under this method, deferred tax assets and liabilities are determined based on temporary differences between financial statement carrying amounts and the tax basis of assets and liabilities using enacted tax rates in the years in which the temporary differences are expected to reverse. Valuation allowances are provided if, based on the weight of available evidence, it is more likely than not that some of or all the deferred tax assets will not be realized.

The Company accounts for uncertain tax positions pursuant to ASC 740, which prescribes a recognition threshold and measurement process for financial statement recognition of uncertain tax positions taken or expected to be taken in a tax return. If the tax position meets this threshold, the benefit to be recognized is measured as the tax benefit having the highest likelihood of being realized upon ultimate settlement with the taxing authority. The Company recognizes interest accrued related to unrecognized tax benefits and penalties in the provision for income taxes.

Stock-Based Compensation

Stock-based compensation expense represents the cost of the estimated grant date fair value of employee and non-employee stock option grants recognized over the requisite service period of the awards, which is usually the vesting period, on a straight-line basis. The Company recognizes forfeitures as they occur as a reduction of expense. The Company estimates the fair value of employee and non-employee stock option grants using the Black-Scholes option pricing model.

Net Loss Per Common Share

Basic loss per common share is computed by dividing net loss available to common stockholders by the weighted average number of shares of common stock outstanding during the period. The Company's Series B Convertible Preferred Stock and certain of the Company's outstanding warrants contain non-forfeitable rights to dividends with the common stockholders, and therefore are considered to be participating securities. The Series B Convertible Preferred Stock and the warrants do not have a contractual obligation to fund the losses of the Company; therefore, the application of the two-class method is not required when the Company is in a net loss position but is required when the Company is in a net income position. When in a net income position, diluted earnings per share is computed using the more dilutive of the two-class method or the if-converted and treasury stock methods.

As the Company was in a net loss position for both periods, basic and diluted loss per share for the years ended December 31, 2022 and December 31, 2021 were calculated under the if-converted and treasury stock methods. Accordingly, in computing the net loss attributable to basic and diluted common shares for the year ended December 31, 2022, the Company has deducted the value of the effect of the down round feature on equity classified warrants that was triggered in the period as it was determined to be anti-dilutive. Basic and diluted earnings per share during the three months ended September 30, 2021 were calculated under the two-class method, as the Company was in a net income position for that period. Certain of the liability-classified warrants were dilutive in the three months ended September 30, 2021 resulting in a dilutive impact for the year ended December 31, 2021.

The following table presents the calculation of weighted average shares used to calculate basic and diluted loss per share (in thousands, except share and per share amounts):

	Year Ended December 31,	
	2022	2021
Basic net loss per common share:		
Net loss	$ (14,260)	$ (26,616)
Adjustment to record the impact of exercise price reset on outstanding warrants related to down round provisions	(288)	—
Net loss attributable to common shares - basic	$ (14,548)	$ (26,616)
Weighted average shares used in calculating basic loss per share	880,311	186,195
Basic net loss per common share	$ (16.53)	$ (142.95)
Diluted net loss per common share:		
Net loss	$ (14,260)	$ (26,616)
Change in fair value of warrants	—	(5,119)
Adjustment to record the impact of exercise price reset on outstanding warrants related to down round provisions	(288)	—
Net loss attributable to common shares - diluted	$ (14,548)	$ (31,735)
Weighted-average shares outstanding	880,311	186,195
Effect of potentially dilutive securities	—	763
Weighted average shares used in calculating diluted loss per share	880,311	186,958
Diluted net loss per common share	$ (16.53)	$ (169.74)

The following potentially dilutive securities were excluded from the calculation of diluted loss per share because their effects would be anti-dilutive:

	December 31,	
	2022	2021
Stock options	43,658	39,048
Warrants for common stock	1,055,672	143,602
Series A Convertible Preferred Stock	129	129
Total	1,099,459	182,779

Comprehensive Income (Loss)

Comprehensive income (loss) is defined as a change in equity during a period from transactions and other events and circumstances from non-owner sources. The Company's comprehensive loss was the same as its reported net loss for all periods presented.

Recently Adopted Accounting Pronouncements

In August 2020, FASB issued Accounting Standards Update ("ASU") 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging — Contracts in Entity's Own Equity (Subtopic 815-40) — Accounting for Convertible Instruments and Contracts in an Entity's Own Equity* ("ASU- 2020-06"), which, among other things, provides guidance on how to account for contracts on an entity's own equity. This ASU simplifies the accounting for certain financial instruments with characteristics of liabilities and equity. Specifically, the ASU eliminated the need for the Company to assess whether a contract on the entity's own equity (1) permits settlement in unregistered shares, (2) whether counterparty rights rank higher stockholder's rights, and (3) whether collateral is required. In addition, the ASU requires incremental disclosure related to contracts on the entity's own equity and clarifies the treatment of certain financial instruments accounted for under this ASU on earnings per share. This ASU may be applied on a full retrospective of modified retrospective basis. For smaller reporting companies, this ASU is effective for fiscal years beginning after December 15, 2023, including interim periods within those fiscal years. Early adoption of the ASU is permitted for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. The Company early adopted this standard on January 1, 2022 and determined that it had no impact on the accounting for its liability-classified warrants as of the date of adoption.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments — Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"). The ASU introduced a new credit loss methodology, the

Current Expected Credit Losses ("CECL") methodology, which requires earlier recognition of credit losses, while also providing additional transparency about credit risk. The CECL methodology utilizes a lifetime "expected credit loss" measurement objective for the recognition of credit losses for loans, held-to maturity debt securities, trade receivables and other receivables measured at amortized cost at the time the financial asset is originated or acquired. After the issuance of ASU 2016-13, the FASB issued several additional ASUs to clarify implementation guidance, provide narrow-scope improvements and provide additional disclosure guidance. In November 2019, the FASB issued an amendment making this ASU effective for fiscal years beginning after December 15, 2022 for smaller reporting companies. The Company adopted this standard as of January 1, 2023 and expects it will not have a material impact on its consolidated financial statements and related disclosures for the three months ending March 31, 2023.

3. Revision of Previously Issued Financial Statements for Correction of Immaterial Errors

In connection with the preparation of the Company's condensed consolidated financial statements required to be included in the Quarterly Report on Form 10-Q as of and for the nine months ended September 30, 2022, which the Company filed with the SEC on November 14, 2022, management identified a classification error, between current assets (prepaid expenses and other current assets) and noncurrent assets (other noncurrent assets), in the Company's historical financial statements, resulting in a conclusion that for comparability purposes a correction should be made to the Company's consolidated financial statements as of December 31, 2021. The Company has revised its balance sheet as of the year ended December 31, 2021 accordingly and included such revisions herein. Based on an analysis of quantitative and qualitative factors, the Company concluded this error was not material to its consolidated financial position as of December 31, 2021 and had no impact on the Company's results of operations, including net (loss) earnings per share or cash flows as presented in the Company's previously issued financial statements. As a result, amendment of such reports is not required.

The adjustment to "prepaid expenses and other current assets" and "other noncurrent assets" within the Company's consolidated balance sheet as of the year ended December 31, 2021 are as follows:

	December 31, 2021		
	As Reported	Adjustment	As Adjusted
ASSETS			
Current assets:			
Cash and cash equivalents	$ 10,495	$ —	$ 10,495
Prepaid expenses and other current assets	1,879	(868)	1,011
Total current assets	12,374	(868)	11,506
Restricted cash	26	—	26
Right-of-use asset	109	—	109
Other noncurrent assets	—	868	868
Property and equipment, net	3	—	3
Total assets	$ 12,512	$ —	$ 12,512

4. Merger between Seneca and LBS

On December 16, 2020, Seneca and LBS entered into a Merger Agreement. Pursuant to the Merger Agreement, on April 27, 2021, Merger Sub merged with and into LBS with LBS surviving as a wholly owned subsidiary of Seneca.

The transaction was accounted for as a reverse asset acquisition. Under this method of accounting, LBS was deemed to be the accounting acquirer for financial reporting purposes. This determination was primarily based on the facts that, immediately following the Merger: (i) LBS's stockholders owned a substantial majority of the voting rights in the combined company, (ii) LBS designated a majority of the members of the initial board of directors (five of eight total members at the time) of the combined company, (iii) LBS's senior management holds all key positions in the senior management of the combined company and (iv) the only employees remaining in the combined company are that of LBS employees (all Seneca employees were terminated on the date of Merger). As a result, as of the closing date of the Merger, the net assets of the Company were recorded at their acquisition-date relative fair values in the

accompanying consolidated financial statements of the Company and the reported operating results prior to the Merger are those of LBS.

Pursuant to the terms of the Merger Agreement, each share of LBS common stock outstanding immediately prior to the closing of the Merger was converted into approximately 0.02719 shares of Company common stock immediately prior to the Merger, such that, immediately following the effective date of the Merger, preexisting LBS equity holders held approximately 74.9% of the capital stock of Seneca outstanding immediately following the Merger, and the equity holders of Seneca immediately before the Merger held approximately 25.1% of the Seneca capital stock outstanding immediately following the Merger.

In accordance with the Merger Agreement, the Company entered into a Contingent Value Rights Agreement ("CVR Agreement") related to the monetization of the Company's legacy assets that were being developed prior to the Merger. Under the terms of the CVR Agreement, Seneca shareholders who held shares immediately prior to the effective date of the Merger retain the right to receive a portion of proceeds received within 48 months of the Merger closing from the sale or licensing of all or any part of the intellectual property owned, licensed or controlled by the Seneca immediately prior to the closing of the Merger (the "Legacy Technology") provided the sale or licensing of such Legacy Technology occurs on or before the 18-month anniversary of such closing ("Legacy Monetization"). The contingent value right ("CVR") payment amount ("CVR Payment Amount") is calculated as 80% of the net proceeds received, subject to certain conditions, provided, however that (i) no CVR Payment is required in the event such amount is less than $0.3 million during the CVR term and (ii) no distribution of the CVR Payment is required to be made to the holders of the CVR if such distribution would be less than $0.5 million. Based on the information available at the time of the Merger, any contingent consideration associated with the CVR payment was deemed to have a remote possibility. As such, no consideration was recorded on the Company's consolidated financial statements. The Legacy Monetization period of the CVR expired on October 27, 2022.

As previously disclosed, on December 16, 2020, Seneca exclusively licensed certain patents and technologies, including a sublicense covering a synthetic intermediate, of the Company's NSI-189 assets ("189 License"), along with a purchase option through December 16, 2023 ("Purchase Option"). On October 22, 2021, Alto Neuroscience agreed to terms of an early exercise of the Purchase Option under the 189 License and entered into an Asset Transfer Agreement ("ATA"). Alto Neuroscience is a U.S. based private biopharmaceutical company focused on precision-medicine for central nervous system disorders, including depression, using artificial intelligence-based brain biomarkers.

In connection with the ATA, the Company received gross proceeds of $0.4 million. Pursuant to the terms of the CVR Agreement, no distribution is required to be made to the holders of the CVR if the CVR Payment Amount would be less than $0.5 million. In accordance with the terms of the CVR Agreement, the net proceeds from the sale of the NSI-189 assets, less any applicable transaction costs and expenses, were deposited into the CVR escrow to be used to pay costs and expenses associated with the monetization of the Company's other Legacy Technologies, which may include but are not limited to: financial advisory and consulting fees, legal fees, and any other fees associated with the monetization. There can be no assurance that CVR holders will receive CVR Payment Amounts from the sale of the NSI-189 assets.

On October 27, 2022, the Company entered an agreement to license NSI-532.IGF-1 to the Regents of the University of Michigan ("University of Michigan") for maintaining NSI-532.IGF-1 cell lines, continued development, maintaining patent protection, and seeking licensees. The Company received no upfront fees for the license. NSI-532.IGF-1 is a preclinical cell therapy being investigated as a potential therapy for prevention and treatment of Alzheimer's disease. The University of Michigan shall bear 100% of the costs for patent filing, prosecution, maintenance, and enforcement of the patent rights. The Company will receive 50% of net revenues received by the University of Michigan from the licensing of patent rights through the last-to-expire patent in patent rights, unless otherwise earlier terminated, less all reasonable and actual out-of-pocket costs incurred in the litigation of patent rights. There can be no assurance that NSI-532.IGF-1 will ever be successfully monetized or that CVR holders will receive CVR Payment Amounts from the sale of the NSI-532.IGF-1 assets.

Merger

The Merger was accounted for as an asset acquisition pursuant to Accounting Standards Codification ("ASC") 805, as substantially all of the fair value of the assets acquired were concentrated in a group of similar identifiable intangible assets, and the acquired assets did not have outputs or employees. As Seneca had not yet received regulatory approval for its product candidates, the fair value attributable to these assets was recorded as acquired in-process research and development ("IPR&D") expense in the Company's consolidated statements of operations for the year ended December 31, 2021.

The total purchase price paid in the Merger has been allocated to the net assets acquired and liabilities assumed based on their fair values as of the completion of the Merger. The following summarizes the purchase price paid in the Merger (in thousands, except share and per share amounts):

Purchase Price Consideration:		
Number of shares of the combined company issued to Seneca's stockholders (i)		2,884,375
Multiplied by the fair value per share of Seneca's common stock (ii)	$	9.96
Total share value consideration		28,728
LBS transaction costs		4,670
Total purchase price	$	33,398

(i) Represents the actual post reverse stock split effected number of shares of Seneca common stock outstanding immediately prior to the Merger. Amount has not been adjusted for the Reverse Stock Split.

(ii) The purchase price was based on the closing price as reported on the Nasdaq Capital Market on April 27, 2021 (i.e., the Merger close date). Amount has not been adjusted for the Reverse Stock Split.

The allocation of the purchase price is as follows (in thousands):

		Fair Value of Assets
Cash and cash equivalents	$	3,279
Accounts receivable		24
Prepaid and other current assets		1,270
Accounts payable and accrued expenses		(927)
Accrued compensation		(165)
Warrant liabilities, at fair value		(200)
In-process research and development (IPR&D) (i)		30,117
Purchase price	$	33,398

(i) Represents the research and development projects of Seneca which were in-process, but not yet completed as of the date of the acquisition, the Merger close date. Current accounting standards require that the fair value of IPR&D projects acquired in an asset acquisition with no alternative future use be allocated a portion of the consideration transferred and charged to expense on the acquisition date.

5. Balance Sheet Details

Prepaid expenses and other current assets consisted of the following (in thousands):

	December 31,	
	2022	2021
Prepaid insurance	$ 581	$ 540
Other receivables	1,438	150
Prepaid subscriptions and fees	157	215
Prepaid software licenses	54	78
Deferred equity issuance costs	114	—
Prepaid other	6	28
	$ 2,350	$ 1,011

Other receivables as of December 31, 2022 includes a $1.4 million receivable for the cash exercise price of common stock purchase warrants that had been exercised but the cash had not yet been received by the Company as of that date. The entire amount of this receivable was received by the Company in January of 2023. There was no such receivable as of December 31, 2021.

Accrued liabilities consisted of the following (in thousands):

	December 31,	
	2022	2021
Accrued accounts payable	$ 69	$ 195
Accrued clinical trial costs	184	158
Accrued director stipends	141	110
Accrued severance and benefits (Note 11)	180	—
	$ 574	$ 463

Other noncurrent assets consisted of the following (in thousands):

	December 31,	
	2022	2021
Prepaid insurance, less current portion	$ 682	$ 868
Other noncurrent assets	12	—
	$ 694	$ 868

6. Fair Value Measurements

The Company has issued warrants that are accounted for as liabilities based upon the guidance of ASC 480 and ASC 815. Estimating fair values of liability-classified financial instruments requires the development of estimates that may, and are likely to, change over the duration of the instrument with related changes in internal and external market factors. In addition, option-based techniques are highly volatile and sensitive to changes in the trading market price of the Company's common stock. Because liability-classified financial instruments are initially and subsequently carried at fair value, the Company's financial results will reflect the volatility in these estimate and assumption changes. Changes in fair value are recognized as a component of other income (expense) in the consolidated statement of operations.

In connection with the transactions contemplated by the Merger, on December 16, 2020, the Company entered into a securities purchase agreement (the "Securities Purchase Agreement") with an investor (the "Investor") pursuant to which, among other things, the Company agreed to issue (i) senior secured promissory notes in the aggregate principal amount of up to $5.0 million, in exchange for an aggregate purchase price of up to $3.75 million, representing an aggregate original issue discount of up to $1.25 million (the "Senior Secured Promissory Notes"), and (i) warrants to

purchase shares of the Company's common stock ("Senior Secured Promissory Note Warrants") were issued. At the date of issuance, the Company valued the Senior Secured Promissory Note Warrants using a Monte-Carlo valuation model with a resulting fair value of $3.6 million.

In connection with the Merger, on April 27, 2021, the outstanding principal and interest on both tranches of the Senior Secured Promissory Notes were cancelled for shares of Series 1 Preferred Stock of the Company. As of both December 31, 2022 and 2021, there is no principal or interest outstanding on the Senior Secured Promissory Notes.

On May 20, 2021, pursuant to the terms of the Securities Purchase Agreement, the Company issued to the Investor warrants to purchase shares of common stock (the "May 2021 Warrants"). All of the outstanding May 2021 Warrants were exercised in the fourth quarter of 2021 and the first quarter of 2022 in exchange for 106,072 shares of the Company's common stock in a series of exercises by the Investor. As of December 31, 2022, there are no May 2021 Warrants outstanding.

On July 21, 2021, the Company and the Investor entered into an agreement to waive certain provisions of the previous Security Purchase Agreement (the "July 2021 Waiver Agreement"). As part of the July 2021 Waiver Agreement, the Investor agreed to waive the reset provisions of the Senior Secured Promissory Note Warrants and the May 2021 Warrants such that the number of shares and exercise price in effect immediately prior to the effective date of the July 2021 Waiver Agreement shall no longer be subject to price-based resets. The waiver of the reset provision of the Senior Secured Promissory Note Warrants and the May 2021 Warrants is considered a modification to those warrants and as a result, the underlying warrants were re-valued using a Black-Scholes based valuation model, which resulted in a favorable change in the fair value of the underlying warrants of $3.9 million, which was recognized in the gain on the change in the fair value of warrant liability at the consolidated statement of operations for the year ended December 31, 2021.

As consideration for the July 2021 Waiver Agreement, the Company issued the Investor additional warrants to purchase shares of the Company's common stock (the "July 2021 Warrants"). The initial fair value of the July 2021 Warrants was $1.7 million and is included in loss on issuance of warrants at the consolidated statements of operations for the year ended December 31, 2021. The initial fair value was determined using a Monte Carlo simulation model that considered: (i) starting stock price of $3.58 (not adjusted for the Reverse Stock Split), (ii) certain key event dates such as expected capital financings, (iii) an expected re-levered volatility of 99.1 percent, (iv) an estimated risk-free interest rate of 0.82 percent, (v) an estimated contractual term of approximately 5.5 years, and (vi) a zero percent dividend rate.

On January 31, 2022, the Company and the Investor entered into an agreement to irrevocably waive any adjustment to the exercise price of the Senior Secured Promissory Note Warrants and the May 2021 Warrants held by the Investor from and after January 31, 2022 for the Company's issuances of equity or equity-linked securities at a price below the exercise price of the warrants (the "January 2022 Waiver Agreement"). The waiver of any adjustments to the exercise price of the Senior Secured Promissory Note Warrants and the May 2021 Warrants is considered a modification to those warrants. The modification was determined to have no impact on the valuation of the warrants.

As consideration for the foregoing, pursuant to the January 2022 Waiver Agreement, the Company issued the Investor an additional warrants to purchase shares of the Company's common stock (the "January 2022 Warrants"). The initial fair value of the January 2022 Warrants was determined to be $1.1 million and is included in loss on issuance of warrants in the consolidated statements of operations for the year ended December 31, 2022. The initial fair value was determined using a Monte Carlo simulation model that considered: (i) a starting stock price of $1.17 (not adjusted for the Reverse Stock Split), (ii) certain key event dates such as expected capital financings, if any, (iii) an expected re-levered volatility of 93.0 percent, (iv) an estimated risk-free interest rate of 1.65 percent, (v) an estimated contractual term of approximately 5.5 years, and (vi) a zero percent dividend rate.

As of December 31, 2022, the fair value of the Senior Secured Promissory Note Warrants outstanding was determined using a Black-Scholes option pricing model to be insignificant.

As of December 31, 2022, the fair value of the July 2021 Warrants in the amount of $8,000 was determined using a Monte Carlo simulation model that used the follow assumptions: (i) a starting stock price of $6.15, (ii) certain key event dates such as expected capital financings, (iii) an exercise price per share of $181.55, (iv) an expected re-levered volatility of 83.7 percent; (v) an estimated risk-free rate of 4.10 percent, (vi) estimated contractual terms of approximately 4.1 years, and (vii) a zero percent dividend rate.

As of December 31, 2022, the fair value of the January 2022 Warrants in the amount of $50,000 was determined using a Monte Carlo simulation model that used the following assumptions: (i) a starting stock price of $6.15, (ii) certain key event dates such as expected capital financings, (iii) an exercise price per share of $55.00, (iv) an expected re-levered volatility of 82.8 percent; (v) an estimated risk-free rate of 4.04 percent, (vi) estimated contractual terms of approximately 4.6 years, and (vii) a zero percent dividend rate.

The following table summarizes the activity of the Company's Level 3 warrant liabilities which are fair valued on a recurring basis (in thousands):

	Year Ended December 31,	
Warrant Liabilities	**2022**	**2021**
Fair value at beginning of period	$ 2,651	$ 1,830
Initial fair value at the original issuance date	1,110	25,417
Equity classified warrant put feature activated	—	51
Change in fair value during the period	(2,426)	(23,033)
Fair value of liability classified warrants exercised	(1,274)	(1,689)
Seneca liability classified warrants assumed	—	200
Expiration of equity classified warrant put feature	—	(26)
Settlement of liability-classified warrants	—	(99)
Fair value at end of period	$ 61	$ 2,651

Seneca had certain common stock purchase warrants that were originally issued in connection with the May 2016 and August 2017 offerings that are accounted for as liabilities whose fair value was determined using Level 3 inputs. The May 2016 warrants expired in the second quarter of 2021, with only the August 2017 warrants recorded as a liability as of December 31, 2022. As a result of the Merger, the put right was activated on the August 2017 offering warrants and these warrants were valued at their put right value using a Black-Scholes option pricing model. The Company settled the put feature for these warrants during the quarter ended June 30, 2021. The put right became inactive in July 2021 and the remaining warrants had an insignificant value as of December 31, 2022, which was determined using a Black-Scholes option pricing model.

In connection with the May 2022 Registered Direct Offering (see Note 7, Stockholders' Equity (Deficit)), the Company issued warrants to purchase shares of its common stock to certain investors and the placement agent. All of these warrants were classified as equity as of the date of issuance of May 10, 2022.

In connection with the August 2022 Public Offering (see Note 7, Stockholders' Equity (Deficit)), the Company issued warrants to purchase shares of its common stock to certain investors and the underwriter of the offering. All of these warrants were classified as equity as of the date of issuance of August 16, 2022.

The gains resulting from the changes in the fair value of the liability classified warrants are classified as a gain on change in fair value of warrant liability in the accompanying consolidated statements of operations.

7. Stockholders' Equity (Deficit)

Classes of Stock

Prior to the completion of the Merger, LBS was authorized to issue 6,797,500 shares of $0.01 par value common stock and 33,594,625 shares of $0.001 par value Series C Convertible Preferred Stock. In connection with the Merger, the issued and outstanding Series C Convertible Preferred Stock shares in the amount of 11,674,131 were converted to 317,420 shares (pre-split) of the Company's common stock.

In connection with signing the Merger Agreement, LBS, Seneca and the Investor entered into a securities purchase agreement, pursuant to which, among other things, the Investor agreed to convert its outstanding senior secured debt and invest up to $20.0 million in cash to fund the combined company following the Merger. In return, LBS issued to the Investor a total of 5,303,568 shares of LBS Series 1 Preferred Stock at $0.001 par value per share. The LBS Series 1 Preferred Stock converted to common stock upon the closing of the Merger.

The Company recorded $19.9 million in net proceeds associated with this financing. In addition, the Company issued to the Investor warrants to purchase common stock in the combined company. The fair value of these warrants exceeded the equity proceeds, resulting in a $1.9 million loss on the issuance of the LBS Series 1 Preferred Stock. The Company incurred offering costs of $1.6 million which were allocated to the warrants and included in loss on issuance of warrants at the consolidated statements of operations for the year ended December 31, 2021.

Common Stock

As of December 31, 2021, the Company was authorized to issue 300,000,000 shares of $0.01 par value common stock. On October 6, 2022, the shareholders of the Company approved an amendment to the Company's Amended and Restated Certificate of Incorporation to decrease the number of authorized shares of common stock of the Company from 300,000,000 to 280,000,000, which took effect upon the filing of an amendment to the Company's Certificate of Incorporation. As a result of this amendment, as of December 31, 2022 the Company was authorized to issue 280,000,000 shares of $0.01 par value common stock. Each share of the Company's common stock entitles the holder thereof to one vote on each matter submitted to a vote at a meeting of stockholders.

On November 15, 2022, the Company effected the Reverse Stock Split. Accordingly, each of the Company's shareholders received one new share of the Company's common stock for every 50 shares of the Company's common stock such shareholder held immediately prior to the effective time of the Reverse Stock Split. The Reverse Stock Split affected all of the Company's issued and outstanding shares of the Company's common stock equally. The Reverse Stock Split also affected the Company's outstanding stock options, warrants and other exercisable or convertible securities and resulted in the shares underlying such instruments being reduced and the exercise price being increased proportionately to the Reverse Stock Split ratio. No fractional shares were issued as a result of the Reverse Stock Split with any fractional shares that would have otherwise resulted from the Reverse Stock Split paid in cash, at an amount equal to the resulting fractional interest in one share of the Company's common stock to which the shareholder would otherwise be entitled, multiplied by the closing trading price of the Company's common stock on November 15, 2022. The amount of cash paid for fractional shares was insignificant.

As a result of the Reverse Stock Split, the number of issued and outstanding shares of the Company's common stock was adjusted from 77,080,169 shares to approximately 1,541,508 shares. Each share of the Company's common stock entitles the holder thereof to one vote on each matter submitted to a vote at a meeting of stockholders.

Preferred Stock

As of December 31, 2022 and December 31, 2021, the Company was authorized to issue 7,000,000 shares of $0.01 par value preferred stock of which 1,000,000 shares have been designated as Series A 4.5% Convertible Preferred Stock ("Series A Convertible Preferred Stock") and 200,000 of which are issued and outstanding. As of December 31, 2022, the Company's Series A Convertible Preferred Stock issued in the amount of 200,000 preferred stock shares is convertible into 129 shares of common stock.

In connection with the August 2022 Public Offering (see below), the Company's Board designated 1,460 shares of the Company's preferred stock as $0.01 par value Series B Convertible Preferred Stock. Each share of Series B Convertible Preferred Stock will be convertible at any time at the holder's option into one share of the Company's common stock, which conversion ratio will be subject to adjustment for stock splits, stock dividends, distributions, subdivisions and combinations. Subject to certain limitations, if the volume weighted average price of the Company's stock during any 30 consecutive trading day period exceeds 300% of the conversion price, the average daily dollar trading volume for such 30 consecutive trading period $500,000 per trading day and the holder is not in possession of any material non-public information, the Company may force each holder of Series B Convertible Preferred Stock to convert all of their shares of Series B Convertible Preferred Stock. The Series B Convertible Preferred Stock carries no voting rights and is not eligible for any dividends paid by the Company on shares of the Company's common stock, other than dividends in the form of the Company's common stock. The Series B Convertible Preferred Stock was classified as permanent equity as of the date of issuance, in accordance with authoritative guidance of ASC 480-10-S99 for the classification

and measurement of potentially redeemable securities. As of December 31, 2022, all of the shares of the Series B Convertible Preferred stock issued in connection with the August 2022 Public Offering (see below) have been converted into shares of the Company's common stock and there were no shares of the Series B Convertible Preferred Stock issued or outstanding.

Yuma Private Equity

On August 19, 2021, the Company entered into a Private Securities Purchase Agreement with Yuma Regional Medical Center ("Yuma"), a related party, pursuant to which Yuma purchased 30,197 shares of the Company's common stock, par value $0.01 per share at a purchase price of $172.50 per share (all amounts adjusted for Reverse Stock Split). The Company recorded $5.1 million in proceeds, net of equity issuance costs of $67,000, associated with the financing. In addition, the Company issued warrants to purchase common stock (see Note 8).

May 2022 Registered Direct Offering

On May 6, 2022, the Company entered into securities purchase agreements with certain investors pursuant to which it agreed to sell and issue, in a registered direct offering (the "May 2022 Registered Direct Offering"), an aggregate of 72,935 shares of its common stock, par value $0.01 per share, at a purchase price of $27.50 per share (all amounts adjusted for Reverse Stock Split) and, in a concurrent private placement, also agreed to sell and issue to such purchasers warrants (the "May 2022 Purchase Warrants") to purchase up to 72,935 shares of common stock.

In connection with the May 2022 Registered Direct Offering and concurrent private placement transaction, the Company engaged a placement agent. The Company issued placement agent warrants ("May 2022 Placement Agent Warrants") to purchase an aggregate of 4,376 shares of its common stock. The May 2022 Placement Agent Warrants and the May 2022 Purchase Warrants are referred to collectively as the May 2022 Warrants.

The net proceeds from the May 2022 Registered Direct Offering of $1.4 million consisted of gross proceeds of $2.0 million less equity issuance costs of approximately $0.6 million. The fair value of the May 2022 Placement Agent Warrants was recognized as an equity issuance cost.

The shares of common stock (but not the warrants or the shares of common stock underlying such warrants) offered in the Registered Offering were offered and sold by the Company pursuant to a "shelf" registration statement on Form S-3, including a base prospectus, previously filed with and declared effective by the SEC on April 26, 2022. The May 2022 Warrants and shares of common stock underlying such warrants were later registered for resale on a separate registration statement on Form S-1.

August 2022 Public Offering

On August 16, 2022, the Company closed on a registered public offering pursuant to which the Company agreed to issue and sell (i) 987,200 shares of the Company's common stock, par value $0.01 per share, (ii) 1,460 shares of Series B Convertible Preferred Stock, of which each share is convertible into 80 shares of the Company's common stock, (iii) 1,104,000 Series 1 warrants with a term of one year from the date of issuance ("Series 1 Warrant") to purchase one share of the Company's common stock, and (iv) 1,104,000 Series 2 warrants with a term of five years from the date of issuance ("Series 2 Warrant") to purchase one share of the Company's common stock (the "August 2022 Public Offering"). The warrants became exercisable beginning on the date of stockholder approval of the exercisability of the warrants, which was received on October 6, 2022. Gross proceeds from the August 2022 Public Offering, including the full exercise of the underwriter overallotment option, were $13.8 million and net proceeds were approximately $11.5 million after deducting equity issuance costs of $2.3 million, which includes the underwriter discount, professional fees, and the fair value of the warrants issued to the underwriter of the August 2022 Public Offering, Ladenburg Thalmann & Co. Inc. (the "Underwriter") (see Note 8). All shares of the Series B Convertible Preferred Stock have been converted into shares of the Company's common stock as of December 31, 2022.

8. Common Stock Warrants

The Company's outstanding common stock warrants that are classified as equity warrants are included as a component of stockholder's equity (deficit) at the date of grant at the relative fair value at that grant date. Common stock warrants accounted for as liabilities in accordance with the authoritative accounting guidance are included in non-current liabilities. The Company had common stock warrants exercisable and outstanding of 1,055,672 and 143,602, at December 31, 2022 and December 31, 2021, respectively. Of the Company's 1,055,672 common stock warrants exercisable at December 31, 2022, 805,202 common stock warrants have an exercise price of $2.38 and are subject to down round price reset provisions.

Liability-Classified Warrants

The Company accounts for certain of its warrants as liability-classified in accordance with ASC 480 and ASC 815, including primarily the Senior Secured Promissory Note Warrants, the July 2021 Warrants and the January 2021 Warrants. The May 2021 Warrants issued during the year ended December 31, 2021, which had been liability-classified, were fully exercised in the in the fourth quarter of 2021 and the first quarter of 2022 for 26,186 and 79,886 shares of the Company's common stock, respectively, in cashless exercises. As of December 31, 2022, there are no May 2021 Warrants outstanding.

January 2022 Warrants

As consideration for the January 2022 Waiver Agreement (see Note 6), the Company issued the January 2022 Warrants. The January 2022 Warrants expire five and a half years from the date of issuance, or July 31, 2027. As of December 31, 2022, the January 2022 Warrants outstanding were exercisable for 45,000 shares of the Company's common stock at an exercise price of $55.00.

July 2021 Warrants

As consideration for the July 2021 Waiver Agreement (see note 6), the Company issued the July 2021 Warrants. The July 2021 Warrants expire five years from the date of registration of the warrants, or August 19, 2026. As of December 31, 2022, the July 2021 Warrants outstanding were exercisable for 22,000 shares of the Company's common stock at an exercise price of $181.50.

Senior Secured Promissory Note Warrants

The Senior Secured Promissory Note Warrants expire five years from the date of registration of the warrants, or August 10, 2026. As of December 31, 2022, the Senior Secured Promissory Note Warrants outstanding were exercisable for 17,177 shares of the Company's common stock at an exercise price of $194.00.

Equity-Classified Warrants

The Company accounts for the majority of its warrants as equity-classified in accordance with ASC 480 and ASC 815. Equity-classified warrants are recorded in equity based on their relative fair value on the date of issuance.

August 2022 Public Offering Warrants

In connection with the August 2022 Public Offering, on August 16, 2022 the Company issued Series 1 Warrants exercisable for 1,104,000 shares of the Company's common stock and the Series 2 Warrants for 1,104,000 shares of the Company's common stock. Both the Series 1 Warrants and the Series 2 Warrants became exercisable beginning on the date of stockholder approval of the exercisability of the warrants, which was received on October 6, 2022. The Series 1 Warrants expire one year from the date of issuance and the Series 2 Warrants expire five years from the date of issuance. The original exercise price of the Series 1 Warrants and Series 2 Warrants was $12.50. Per the terms of the underlying warrant agreements, the exercise price of the Series 1 Warrants and Series 2 Warrants was adjusted to $2.81, based upon the five day volume weighted average price of the Company's common stock immediately following the effective date of the Reverse Stock Split. Concurrent with the August 2022 Public Offering, the Company issued the underwriter warrants to purchase 66,240 shares of the Company's common stock at an exercise price of $15.63 (the "Underwriter Warrants"). The Underwriter Warrants expire five years from the date of issuance.

In addition, the exercise price of the Series 1 Warrants and Series 2 Warrants can be further adjusted in the event of issuances of the Company's common stock at a price lower than the exercise price of the Series 1 Warrants and Series 2 Warrants then in effect (the “Down Round Feature”). During the year ended December 31, 2022, the Down Round Feature was triggered due to the December 30, 2022 announcement of an agreement to issue common stock of the Company (see Note 15, Subsequent Events). As a result of the triggering of the Down Round Feature, the exercise price of any outstanding Series 1 Warrants or Series 2 Warrants was adjusted down to $2.38, which represents the price per share of the equity being offered in the December 30, 2022 announcement.

The Company calculated the value of the effect of Down Round Feature measured as the difference between the Series 1 Warrant and Series 2 Warrant fair value, using a Monte Carlo valuation model, immediately before and immediately after the Down Round Feature was triggered using the original exercise price and the new exercise price. The difference in fair value of the effect of the Down Round Feature of $288,000 and was recognized as a deduction from the loss available to common shareholders for the year ended December 31, 2022. The exercise price of the Series 1 Warrants and Series 2 Warrants will continue to be adjusted in the event the Company issues additional shares of common stock below the current exercise price, in accordance with the terms of the warrants.

During the year ended December 31, 2022, the Company received proceeds of $3.7 million from exercises of 777,399 Series 1 Warrants and 625,399 Series 2 Warrants, $1.4 million of which was receivable to the Company as of December 31, 2022, and was received in cash shortly after that date. As of December 31, 2022, the Series 1 Warrants outstanding were exercisable for 326,601 shares of the Company’s common stock the Series 2 Warrants outstanding were exercisable for 478,601 shares of the Company’s common stock, each at an exercise price of $2.38. All of the Underwriter Warrants are outstanding as of December 31, 2022 at an exercise price of $15.63, and are not subject to any exercise price reset or down round provisions.

May 2022 Registered Direct Offering Warrants

In connection with the May 2022 Registered Direct Offering, on May 10, 2022 the Company issued the May 2022 Purchase Warrants to purchase 72,935 shares of the Company's common stock at an exercise price of $35.53. The May 2022 Purchase Warrants are not exercisable until six months following the date of issuance and expire five and a half years from the date of issuance. Concurrently, the Company issued the May 2022 Placement Agent Warrants to purchase 4,376 shares of the Company's common stock at an exercise price of $35.53. The May 2022 Placement Agent Warrants are not exercisable until six months following the date of issuance and expire five years from the date of issuance. Neither the May 2022 Purchase Warrants or the May 2022 Placement Agent Warrants are subject to any exercise price reset or down round provisions.

The following table summarizes all warrant activity for the year ended December 31, 2022:

	Number of Warrants	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)
Warrants outstanding, December 31, 2021	143,602	$ 294.71	4.45
Granted	2,396,551	4.80	3.04
Exercised	(1,482,684)	12.94	2.49
Forfeited, expired or cancelled	(1,797)	3,879.49	—
Warrants outstanding, December 31, 2022	1,055,672	26.48	3.32

9. Equity Incentive Plans

In 2013, LBS adopted the 2013 Employee, Director, and Consultant Equity Incentive Plan, (as amended and restated, the "2013 Plan"). Upon the closing of the Merger, each outstanding, unexercised and unexpired LBS option under the 2013 Plan, whether vested or unvested, was assumed by the Company and converted into an option to purchase common stock of the Company and became exercisable by the holder of such option in accordance with its terms. In connection with the closing of the Merger, no further awards will be made under the 2013 Plan.

In April 2021, in connection with the closing of the Merger, the Company's stockholders approved the Palisade Bio, Inc. 2021 Equity Incentive Plan (the "2021 EIP Plan"). As of December 31, 2022, there were 20,589 shares of the Company's common stock authorized and available for issuance as equity-based awards under the 2021 EIP Plan. In addition, such aggregate number of shares of the Company's common stock shares available for issuance under equity-based awards will automatically increase on January 1 of each year for a period of ten years commencing on January 1, 2022 and ending on (and including) January 1, 2031, in an amount equal to 4% of the total number of shares of the Company's common stock outstanding on December 31st of the preceding year; provided, however, that the board of directors of the Company (the "Board") may act prior to January 1st of a given year to provide that the increase for such year will be a lesser number of shares of common stock.

Also in April 2021, the Company's stockholders approved the Palisade Bio, Inc. 2021 Employee Stock Purchase Plan (the "2021 ESPP"). The 2021 ESPP was adopted in order to provide eligible employees of the Company an opportunity to purchase shares of the Company's common stock. As of December 31, 2022, there were 5,160 shares of the Company's common stock authorized and available under the ESPP. In addition, such aggregate number of shares of the Company's common stock shares available for issuance will automatically increase on January 1 of each year for a period of ten years commencing on January 1, 2022 and ending on (and including) January 1, 2031, in an amount equal to 1% of the total number of shares of the Company's common stock outstanding on December 31st of the preceding year; provided, however, that the Board may act prior to January 1st of a given year to provide that the increase for such year will be a lesser number of shares of common stock. As of December 31, 2022, there have been no shares issued under the ESPP.

In November 2021, the Company's compensation committee of the Board adopted the Palisade Bio, Inc. 2021 Inducement Award Plan (the "2021 Inducement Plan"). The 2021 Inducement Plan was adopted in order to grant equity-based awards to individuals not previously employed by the Company, as an inducement to join the Company. As of December 31, 2022, there were 6,440 shares of the Company's common stock authorized and available for issuance as equity-based awards under the 2021 Inducement Plan.

Stock Options

The Company believes that stock options align the interests of its employees and directors with the interests of its stockholders. Stock option awards are generally granted with an exercise price equal to the market price of Company's stock at the date the grants are awarded, a term as determined by the Company's Board but generally not to exceed ten-years, and generally vest in equal proportions each quarter over three years. Vesting could be accelerated in the event of retirement, disability, or death of a participant, or change in control of the Company, as defined in the individual stock option agreements or employment agreements. Stock-based awards are valued as of the measurement

date, which is the grant date, and are generally amortized on a straight-line basis over the requisite vesting period for all awards. The Company's equity incentive plans allow for the issuance of both incentive stock options and non-statutory stock options.

The fair value of options granted during the year ended December 31, 2022 is estimated as of the grant date using the Black-Scholes option pricing model using the assumptions in the following table:

	Year Ended December 31,	
	2022	2021
Weighted-average exercise price per share	$ 40.32	$ 116.00
Weighted-average expected term (years)	5.81	5.63
Weighted-average risk-free interest rate	2.30%	1.25%
Weighted-average expected dividend yield	—	—
Weighted-average volatility	73.66%	74.32%

Risk-free interest rate. The Company bases the risk-free interest rate assumption on observed interest rates appropriate for the expected term of the stock option grants.

Expected dividend yield. The Company bases the expected dividend yield assumption on the fact that it has never paid cash dividends and has no present intention to pay cash dividends.

Expected volatility. Due to the Company’s limited operating history and lack of company-specific historical or implied volatility, the expected volatility assumption is based on historical volatilities of a peer group of similar companies whose share prices are publicly available. The peer group was developed based on companies in the biotechnology industry.

Expected term. The expected term represents the period of time that options are expected to be outstanding. As the Company does not have sufficient historical exercise behavior, it determines the expected life assumption using the simplified method, which is an average of the contractual term of the option and its vesting period.

The following table summarizes stock option activity and related information under the 2013 Plan, the 2021 EIP Plan and the 2021 Inducement Plan for the year ended December 31, 2022:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2021	39,048	$ 363.99	8.37	$ —
Granted	15,852	40.32	9.24	—
Exercised	—	—	—	—
Forfeited, expired or cancelled	(11,242)	110.43	—	—
Outstanding at December 31, 2022	43,658	311.74	6.08	—
Vested and expected to vest at December 31, 2022	43,658	311.74	6.08	—
Exercisable at December 31, 2022	31,129	411.00	4.84	—

The weighted-average grant date fair value of options granted during the years ended December 31, 2022 and December 31, 2021 was $26.15 per share and $83.79 per share, respectively. The fair value of the options vested during each the years ended December 31, 2022 and December 31, 2021 was $1.0 million and $1.2 million, respectively.

Share-Based Compensation Expense

In 2021, the Company determined that the outstanding stock options under the 2013 Plan had an exercise price per share that was significantly higher than the current fair market value of the Company's common stock (the "Underwater Options"). On November 18, 2021, the compensation committee of the Company's Board resolved that

it was in the best interests of the Company and its stockholders to amend the Underwater Options for five key employees to reduce the exercise price per share to the closing per share price of the Company's common stock on November 18, 2021 (the "Repricing"). In accordance with the 2013 Plan requirements, the holders of the Underwater Options identified under the Repricing consented to the modification of their affected awards. All the other terms of the Underwater Options other than the exercise price remained the same, including the number of shares granted, vesting schedule and expiration date.

The Company determined that the Repricing represented a modification of share-based awards under ASC 718. Accordingly, the Company recognized incremental compensation expense of $20,000 and $0.4 million for the years ended December 31, 2022 and 2021, respectively. The additional unrecognized compensation expense to be recognized in future periods associated with the Repricing is insignificant.

The Company's former Chief Development Officer was terminated in February 2021. As part of the separation package, the Company's Board agreed to (i) accelerate vesting by four months for the former employee's outstanding options and (ii) allow seven years from the termination date for the former employee to exercise all vested options. The Company concluded the actions taken by the Company resulted in modification accounting for the stock options. The Company determined the incremental fair value of the modified stock options was $225,000, which was expensed to research and development expenses in the consolidated statements of operations during the year ended December 31, 2021.

The allocation of stock-based compensation for all stock awards is as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Research and development expense	$ 182	$ 440
General and administrative	850	1,451
Total	$ 1,032	$ 1,891

As of December 31, 2022, the unrecognized compensation cost related to outstanding options was $0.5 million, which is expected to be recognized over a weighted-average period of approximately 1.96 years.

10. Collaborations and License Agreements

Co-Development and Distribution Agreement with Newsoara

LBS has entered into a co-development and distribution agreement with Newsoara Biopharma Co., Ltd. ("Newsoara"), a joint venture established with Biolead Medical Technology Limited, as amended, (the "Co-Development Agreement"). Pursuant to the Co-Development Agreement (and subsequent assignment agreement), LBS granted or licensed Newsoara an exclusive right under certain patents to develop, use, sell, offer to sell, import, and otherwise commercialize licensed products (the "Licensed Products") for any and all indications in the People's Republic of China, including the regions of Hong Kong and Macao, but excluding Taiwan (the "Territory"). The Licensed Products only include the Company's lead drug candidate, LB1148. The right includes the right to grant sublicenses to third parties, subject to LBS' written consent, provided that both parties agreed that Newsoara would be permitted to use a certain partner for development purposes. The Co-Development Agreement obligates Newsoara to initially use LBS as the exclusive supplier for all of Newsoara's requirements for Licensed Products in the Territory. During the term of the Co-Development Agreement, Newsoara may request to manufacture the Licensed Product in the Territory, subject to satisfying certain conditions to LBS' reasonable satisfaction. LBS is obligated to approve Newsoara manufacturing rights without undue refusal or delay.

In consideration of the rights granted to Newsoara under the Co-Development Agreement, Newsoara paid LBS a one-time upfront fee of $1.0 million. In addition, Newsoara is obligated to make (i) payments of up to $6.75 million in the aggregate upon achievement of certain regulatory and commercial milestones, (ii) payments in the low six-digit range per licensed product upon achievement of a regulatory milestone, and (iii) tiered royalty payments ranging from the mid-single-digit to low-double-digit percentage range on annual net sales of Licensed Products, subject to adjustment to the royalty percentage in certain events. For the years ended December 31, 2022 and December 31, 2021, there were no milestone payments earned from Newsoara under the Co-Development Agreement.

License Agreements with the Regents of the University of California

The Company has entered into three license agreements, as amended, with the Regents of the University of California ("Regents") for exclusive commercial rights to certain patents, technology and know-how. The licensed assets are related to the Company's products and assays under development. The Regents are entitled to certain development and sales milestones.

The most recent license agreement with the Regents was entered into in July 2021 (the "2021 UC License") to obtain exclusive rights to the cancer-related indications and uses that had been excluded under the one of the preceding licenses with Regents. Pursuant to the 2021 UC License Agreement, the Company has an exclusive, sublicensable, worldwide license under certain patent rights that now include cancer to make, use, sell, offer for sale and import products and practice methods covered by the claims of the licensed patent rights as directed to synthetic charge-changing substrates and methods for detecting protease activity in animal and human clinical samples.

Upon execution of the 2021 UC License, the Company paid a one-time license issue fee of $10,000 and is obligated to pay an annual license maintenance fee in the mid four-digit dollar range until such time that it is commercially selling a licensed product. The Company is also obligated to make: (i) payments up to approximately $1.9 million in the aggregate upon achievement of certain development, regulatory and commercial milestones and (ii) royalty payments in the low- to mid-single-digit percentage range on annual net sales of licensed products, subject to a minimum annual royalty in the low five-digit dollar range and adjustments to the royalty percentage in certain events. Further, the Company is obligated to pay the Regents a percentage of non-royalty licensing revenue it receives from any sublicensees under the 2021 UC License.

In conjunction with the Co-Development and Distribution Agreement with Newsoara, the Company is obligated to pay the Regents a portion of the sublicense income equal to 30 percent of one-third of the upfront payment and milestone payment received. As of December 31, 2022 and December 31, 2021 a sublicensing payable of approximately $13,000 and $81,000, respectively, was included in accounts payable.

11. Commitments and Contingencies

Corporate Office Lease

On May 12, 2022, the Company entered into a new, non-cancelable facility operating lease (the "Corporate Office Lease") of office space for its corporate headquarters, replacing its existing corporate headquarters lease that expired on July 31, 2022. The Corporate Office Lease is for 2,747 square feet of an office building in Carlsbad, California. The initial contractual term is for 39-months commencing on June 1, 2022 and expiring on August 31, 2025. The Company has the option to renew the Corporate Office Lease for an additional 36-month period at the prevailing market rent upon completion of the initial lease term. The Company has determined it is not reasonably certain that it will exercise this renewal option.

Commencing on June 1, 2022, the Company is subject to contractual monthly lease payments of $10,850, plus certain utilities, for the first 12 months with 3 percent escalations at the first, second and third lease commencement anniversaries. The Corporate Office Lease is subject to conditional abatement of fifty percent (50%) of such base rent during the second, third and fourth full calendar months of the initial lease term, as set forth in the lease agreement, as well as a $28,000 tenant improvement allowance.

The Corporate Office Lease is also subject to additional variable charges for common area maintenance, insurance, taxes and other operating costs. This additional variable rent expense is not estimable at lease inception. Therefore, it is excluded from the Company's straight-line expense calculation at lease inception and is expensed as incurred.

As of December 31, 2022, the Company recognized an operating right-of-use asset related to the Corporate Office Lease in the amount of $300,000 and a current and noncurrent operating lease liability related to the Corporate Office Lease of $105,000 and $211,000, respectively. As of December 31, 2022, the total remaining future minimum lease payments associated with the Corporate Office Lease of approximately $316,000, less imputed interest of $46,000 calculated using a discount rate of 10.75%, will be paid over the remaining lease term of approximately 2.7 years.

Maturities of the Company's operating lease liabilities as of December 31, 2022 are as follows (in thousands):

Year ending December 31,		
2023	$	133
2024		136
2025		93
Total operating lease payments		362
Less: imputed interest		(46)
Total operating lease obligations	$	316

The Company recognized operating lease expense associated with its Corporate Office Lease and its predecessor corporate headquarters lease of approximately $189,000 and $197,000 in the years ended December 31, 2022 and December 31, 2021, respectively.

Insurance Financing Arrangements

Consistent with past practice, on May 9, 2022 and May 24, 2022, the Company entered into agreements to finance certain insurance policies which renewed in April 2022 and May 2022. The financing arrangements entered into on May 9, 2022 and May 24, 2022 have stated interest rate of 3.82% and 6.92%, respectively, and are payable over a 9-month period and 10-month period, respectively, with the first payment commencing May 27, 2022. The insurance financing arrangements are secured by the associated insurance policies. As of December 31, 2022 and December 31, 2021, the aggregate remaining balance under the Company's insurance financing arrangements was $88,000 and $87,000, respectively, and is included in Debt in the consolidated balance sheets.

Other than the final insurance financing arrangements payments due, as of December 31, 2022, the Company has no other minimum debt payments required in 2023 or thereafter.

Restructuring Costs

In order to better utilize the Company’s resources on the implementation of its refocused clinical programs and corporate strategy, on September 9, 2022 the Company committed to a cost-reduction plan. This cost-reduction plan consisted of an approximately 20% reduction in workforce force to better align the Company’s resources on its clinical studies, including its lead asset, LB1148.

Associated with the reduction in workforce, the Company has recognized restructuring costs of $410,000 in the consolidated statements of operations for the year ended December 31, 2022, consisting of severance and benefits payments pursuant to employment agreements and the execution of severance and release agreements. As of December 31, 2022, the Company has recognized a liability in the amount of approximately $180,000 associated with the restructuring in accrued liabilities at the consolidated balance sheets. The Company made cash payments of approximately $174,000 in the year ended December 31, 2022 related to the employee severance and benefits incurred and expects to substantially complete the remaining cash payments of the employee severance and benefits incurred by the end of the first quarter of 2023. There were no restructuring costs or related liabilities recognized in the year ended December 31, 2021.

The Company does not expect to incur any other significant costs associated with the cost reduction-plan announced on September 9, 2022.

Legal Proceedings

From time to time, the Company may be involved in various lawsuits, legal proceedings, or claims that arise in the ordinary course of business. Management believes there are no claims or actions pending against the Company through December 31, 2022 which will have, individually or in the aggregate, a material adverse effect on its business, liquidity, financial position, or results of operations. Litigation, however, is subject to inherent uncertainties, and an adverse result in such matters may arise from time to time that may harm the Company’s business.

Indemnification

In accordance with the Company's amended and restated memorandum and articles of association, the Company has indemnification obligations to its officers and directors for certain events or occurrences, subject to certain limits, while they are serving in such capacity. There have been no claims to date, and the Company has a directors and officers liability insurance policy that may enable it to recover a portion of any amounts paid for future claims.

12. Related Party Transactions

Yuma Regional Medical Center

Yuma Regional Medical Center ("Yuma") is an equity investor in the Company and is considered a related party. As October 16, 2020, the Company entered into an unsecured promissory note for a principal sum of $500,000 with Yuma. This unsecured promissory note was amended in May 2021 to extend its maturity date to November 2021. As consideration for the amendment, the Company issued warrants to the noteholder to purchase an aggregate of 100 shares of the Company's common stock. The full principal amount of the unsecured promissory note and interest accrued was repaid by the Company in November 2021. On August 19, 2021, the Company issued to Yuma a warrant to purchase up to 7,549 shares of the Company's common stock at a price of $172.50 per share, subject to certain adjustments (the "August 2021 Warrants"), all of which are outstanding as of December 31, 2022. The August 2021 Warrants, which have been registered for resale, are immediately exercisable and have an expiration date of August 26, 2026.

Director stipends

Unpaid cash stipends owed to the Company's directors for their annual service on the Board are recorded on the Company's consolidated balance sheets within accrued liabilities. These liabilities were $141,250 and $110,000 as of December 31, 2022, and December 31, 2021, respectively.

Separation agreement with former Chief Executive Officer

On October 11, 2022, the Company entered into a separation agreement with its former Chief Executive Officer whereby the parties agreed to a mutual release of claims. Subsequent to paying an aggregate of $22,000 pursuant to the terms of the separation agreement, the Company determined that it is not probable that any additional compensation would be due to the former Chief Executive Officer and therefore, the Company has not recognized any accrual related to compensation or benefits owed pursuant to the separation agreement as of December 31, 2022.

13. Employee Benefits

Subsequent to the Merger, the Company continues to participate in a defined contribution 401(k) plan adopted by LBS effective June 20, 2016. All employees are eligible to participate in the plan beginning on the first day of employment. Under the terms of the plan, employees may make voluntary contributions as a percent of compensation. No matching contributions have been made by the Company since the adoption of the 401(k) plan.

14. Income Taxes

The Company has no current or deferred income taxes as of December 31, 2022 and December 31, 2021.

Income taxes vary from the statutory federal income tax rate applied to loss before income taxes as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Statutory federal income tax rate of 21 percent applied to loss before income taxes	$ (2,995)	$ (5,589)
State taxes - net of federal benefit	(1,040)	(1,309)
Meals and entertainment	—	—
Warrants	(276)	(3,609)
Stock-based compensation	60	106
IPR&D	—	5,828
Interest expense	—	479
Other non-deductible expenses	71	327
Expiration of tax attributes	484	330
Change in tax rate	(157)	(413)
Valuation allowance	3,853	3,664
Others	—	186
	$ —	$ —

Deferred income tax assets and liabilities arising from differences between accounting for financial statement purposes and tax purposes, less valuation reserves at year end are as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Deferred tax assets:		
Accrued expenses	$ 91	$ 59
Depreciation and amortization	192	206
Charitable contributions carryforward	—	1
Lease accounting	87	29
Net operating loss carryforwards	22,681	20,904
Stock compensation	1,955	1,737
Capitalized research and development costs	1,912	—
Total deferred tax assets	26,918	22,936
Deferred tax liabilities:		
Right-of-use asset	83	28
Prepaid expense	160	86
Total deferred tax liabilities	243	114
Net deferred tax asset	26,675	22,822
Valuation allowance	(26,675)	(22,822)
Net deferred taxes	$ —	$ —

Deferred tax assets and liabilities are recognized for temporary differences and unused tax losses to the extent that realization of the related tax benefits is more-likely-than-not. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods when the deferred tax assets become deductible. After considering the history of operating losses and uncertainty regarding its ability to generate positive pre-tax income in 2023 and beyond, the Company has concluded that it is not-more-likely-than-not that its deferred tax assets will be realized, and therefore maintains a full valuation allowance on all deferred tax assets.

As of December 31, 2022, the Company had federal net operating loss ("NOL") carryforwards of approximately $96.7 million and state NOL carryforwards of approximately $33.9 million. Of the total amount of federal NOL carryforwards, approximately $61.9 million arose in tax years beginning after December 31, 2017 and will carry forward indefinitely. The federal NOL carryforwards arising in tax years beginning before January 1, 2018 of approximately $34.8 million will begin to expire in 2023 unless previously utilized. The Company's state NOL carryforwards as of December 31, 2022 may be carried forward for 20 years, and will expire at various dates between 2027 and 2042.

Pursuant to the provisions of the Internal Revenue Code ("IRC"), the Company's NOL and tax credit carryforwards and certain other attributes are subject to review and possible adjustment by the Internal Revenue Service ("IRS") and state tax authorities. NOL and tax credit carryforwards may be subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant stockholders over a three-year period in excess of 50 percent, as defined under Sections 382 and 383 of the IRC, as well as similar state provisions. This could limit the amount of tax attributes that can be utilized annually to offset future taxable income or tax liabilities. The amount of the annual limitation is determined based on the value of the Company immediately prior to the ownership change. Including the recently completed Merger, the Company has completed several equity offerings since its inception which may have resulted in a change in control as defined by Sections 382 and 383 of the IRC, or could result in a change in control in the future. The Company has not completed an IRC Section 382 and 383 analysis for all relevant tax years regarding the limitation of net operating losses. The NOL deferred tax asset does reflect the limitation resulting from the Merger; however, there could be further limitations due to prior changes in control. Due to the existence of a full valuation allowance, however, changes in the NOLs included as deferred tax assets on the Company's consolidated balance sheets would have no impact on the Company's effective tax rate.

The Company files income tax returns in the U.S. federal jurisdiction and various states. Because of the NOLs, the Company is subject to U.S. federal examinations for tax years 2004 and forward, and for examinations from state taxing authorities for tax years 2008 and forward.

The Company accounts for taxation under ASC 740, which clarifies the accounting for uncertain tax positions. ASC 740 requires that the Company recognize the impact of a tax position in its consolidated financial statements if the position is more-likely-than-not to be sustained upon examination based on the technical merits of the position. The Company did not have any uncertain income tax positions as of December 31, 2022 and 2021.

ASC 740 requires the Company to accrue interest and penalties where there is an underpayment of taxes based on the Company's best estimate of the amount to ultimately be paid. The Company identified no unrecorded material uncertain tax positions as of December 31, 2022 and 2021, consequently no interest or penalties have been accrued by the Company in either period. The Company does not anticipate a significant change to its unrecognized tax benefits within the next 12 months.

On December 22, 2017, the United States enacted the Tax Cuts and Jobs Act (the "TCJA"). The TCJA contains certain provisions that went into effect on January 1, 2022, including a provision impacting Section 174 of the IRC whereby for tax years beginning on or after January 1, 2022, taxpayers are required to capitalize and amortize rather than deduct research and development expenses. Section 174 research and development expenses must be amortized over five years for research performed in the U.S. and 15 years for research performed outside the U.S., beginning with the midpoint in the year in which the expenses were incurred. Further, software development costs were specifically included in the definition of a Section 174 expenditure, and therefore must be capitalized and amortized over five (or 15 years). Finally, if a research project is abandoned or disposed of, the taxpayer cannot recover costs earlier than the end of the required amortization period. Beginning in 2022, the Company capitalized and amortized its research and development expenses pursuant to Section 174. Due to the Company's prior and current year losses and its full valuation allowance, the change pursuant to Section 174 did not have a material impact to the Company's tax provision or cash flows.

The Inflation Reduction Act ("IRA") was enacted in the U.S. on August 16, 2022, containing revenue-raising provisions which include a book-income alternative minimum tax and an excise tax on stock buybacks, among other provisions. Based on the thresholds detailed in the IRA and a review of the Company's transactions during the year, these changes do not have an impact on the Company's income tax provision for the year ended December 31, 2022.

15. Subsequent Events

January 2023 Registered Direct Offering and Private Placement

On January 4, 2023, the Company announced that it had closed on a previously announced agreement with certain institutional and accredited investors pursuant to which it agreed to sell and issue, in a registered direct offering (the "Registered Offering"), an aggregate of (i) 476,842 shares of the Company's common stock, par value $0.01 per share, at a purchase price per share of $2.375, and (ii) 37,000 pre-funded warrants to purchase shares of the Company's common stock at a purchase price of $2.3749, with such warrants having an exercise price of $0.0001 per share and a perpetual term. Additionally, in a concurrent private placement, the Company also agreed to sell and issue to such purchasers, an aggregate of (i) 538,789 pre-funded warrants to purchase shares of the Company's common stock at an exercise price of $0.0001 per share, and a perpetual term; and (ii) 1,052,631 warrants to purchase shares of the Company's common stock at an exercise price of $2.375 per share and a term of five (5) years (collectively, the "January 2023 Offering"). All of the warrants are immediately exercisable from their date of issuance.

Pursuant to a placement agency agreement dated as of December 30, 2022, the Company engaged Ladenburg Thalmann & Co. Inc. (the "Placement Agent"), to act as the exclusive placement agent in connection with the Registered Offering and concurrent private placement transaction. The Company issued warrants to the Placement Agent to purchase an aggregate of 63,158 shares of the Company's common stock (the "Placement Agent Warrants"). The Placement Agent Warrants have an exercise price of $2.9688 per share and a term of five (5) years. The Placement Agent Warrants are immediately exercisable from issuance.

Gross proceeds from the January 2023 Offering were $2.5 million and net proceeds are expected to be approximately $2.1 million after deducting equity issuance costs of approximately $0.4 million.

Series 1 and Series 2 Warrant Exercises

As of December 31, 2022, holders of 1.4 million common stock purchase warrants issued pursuant to the Company's August underwritten public offering (the "August Warrants") have exercised such warrants for gross cash proceeds of $3.68 million, $1.4 million of which was receivable to the Company as of December 31, 2022. Subsequent to December 31, 2022, an additional 0.5 million August Warrants have been exercised for additional gross cash proceeds of $1.2 million.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

We maintain "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (1) recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms and (2) accumulated and communicated to our management, including our principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Our management, with the participation of our Interim Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2022. Based upon the evaluation, our Interim Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2022, our disclosure controls and procedures were not effective at a reasonable assurance level as a result of the material weakness that existed in our internal control over financial reporting, as described below.

However, our management, including our Interim Chief Executive Officer and our Chief Financial Officer, have concluded that, notwithstanding the identified material weakness in our internal control over financial reporting, the consolidated financial statements in this Annual Report on Form 10-K fairly present, in all material respects, our financial position, results of operations and cash flows for the periods presented in conformity with U.S. GAAP.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as such term as defined in Exchange Act Rule 13a-15(f). Internal control over financial reporting is a process designed under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

Material Weakness in Internal Control over Financial Reporting and Fair Value Calculations

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that a reasonable possibility exists that a material misstatement of our annual or interim consolidated financial statements would not be prevented or detected on a timely basis.

During the quarter ended June 30, 2021, the company identified a material weakness in our internal controls over financial reporting due to a lack of controls in the financial closing and reporting process, including a lack of segregation of duties and the documentation and design of formalized processes and procedures surrounding the creation and posting of journal entries and account reconciliations. This material weakness contributed to a material weakness in our control activities based on the criteria set forth in the 2013 Framework. If not remediated, or if the Company identifies further material weaknesses in its internal controls, the Company's failure to establish and maintain effective disclosure controls and procedures and internal control over financial reporting could result in material misstatements in its consolidated financial statements and a failure to meet its reporting and financial obligations.

As described below, management has begun designing the plan and executing the remediation actions to address the material weakness and further actions are ongoing as of December 31, 2022. The material weakness continues to be present as of December 31, 2022.

Management had identified an additional material weakness in its internal control over the fair value calculation of options granted during the quarter ended June 30, 2021. This material weakness resulted in a material audit adjustment being made to our consolidated financial statements as of and for the period ended June 30, 2021. During the year ended December 31, 2022, the Company implemented additional control activities to remediate the material weakness in its internal control over the fair value calculation of options granted, which were tested for operating effectiveness in the year ended December 31, 2022 and determined to be in place and operating effectively. The Company has concluded that this material weakness has been fully remediated.

Remediation Efforts related to the Material Weakness

Management, with oversight from the Audit Committee of the Board of Directors of the Company, is actively engaged in remediation efforts to address the material weaknesses identified in the management's evaluation of internal controls and procedures. The remediation efforts summarized below, which have been or are in the process of being implemented, are intended to address the identified material weaknesses.

(i) The Company will continue to hire additional finance, accounting and information technology employees with appropriate experience, certification, education and training.

(ii) The Company has already implemented, or is in the process of implementing, compensating controls to remediate the inherent segregation of duties control risks associated with its current accounting software. In addition, the Company has implemented new accounting and finance management software effective July 1, 2022, which is intended to eliminate some of the existing deficiencies in our internal control environment. Both the compensating controls implemented and those information technology general controls implemented with the new accounting and finance management software will be documented and tested for operating effectiveness.

(iii) The Company is in the process of updating our formal accounting policies, procedures and controls, including preparation and review of account reconciliations, review of journal entries, and controls over period end financial reporting.

(iv) The Company is developing a comprehensive plan to identify and remediate all segregation of duties deficiencies in its current control environment.

(v) The Company is in the process of implementing additional key internal controls designed to address the potential risks identified in its key business processes.

(vi) The Company engaged a third-party service provider to assist with the development, implementation and testing of its information technology general computer controls.

The Company believes that the implementation of the above steps will allow it to make progress on addressing a number of the deficient controls within its internal control environment, which will help facilitate the remediation of the material weakness identified above. As the Company continues to evaluate and work to improve its internal control over financial reporting, it will take additional measures to address control deficiencies, or it may modify certain of the remediation measures described above. However, the Company requires additional time to complete the design and implementation of its remediation plans and demonstrate the operating effectiveness of our remediation efforts. The material weakness cannot be considered remediated until the applicable remedial controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively.

Changes in Internal Control Over Financial Reporting

Other than in connection with implementing a plan to remediate the material weakness described above, there were no changes in the Company's internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) during the quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information.

Not applicable.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not applicable.

PART III

Certain information required by Part III is omitted from this Annual Report on Form 10-K since we intend to file our definitive proxy statement for our 2023 Annual Meeting of Stockholders, or the Proxy Statement, pursuant to Regulation 14A of the Securities Exchange Act of 1934, as amended, not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, and certain information to be included in the Proxy Statement is incorporated herein by reference.

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item is to be included in the Proxy Statement in the sections entitled “Directors, Executive Officers and Corporate Governance,” “Election of Directors,” and “Delinquent Section 16(a) Reports.”

Such information will be included in the Proxy Statement and is incorporated herein by reference.

Code of Ethics

We have adopted the Palisade Bio, Inc. Code of Business Conduct and Ethics, or Ethics Code, that applies to all of our officers, directors and employees. The Ethics Code is available on our website at www.palisadebio.com on the “Governance Documents” page of the section titled “Company.” If we make any substantive amendments to the Ethics Code or grant any waiver from a provision of the Ethics Code to any executive officer or director, we intend to promptly disclose the nature of the amendment or waiver as required by applicable laws. To satisfy our disclosure requirements, we may post any waivers of or amendments to the Ethics Code on our website in lieu of filing such waivers or amendments on a Form 8-K.

Item 11. Executive Compensation.

The information required by this item will be contained in the Proxy Statement under the caption “Executive Compensation” and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this item will be contained in the Proxy Statement under the caption “Beneficial Ownership of Shares of Common Stock" and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this item will be contained in the Proxy Statement under the caption “Certain Relationships and Related Party Transactions” and “Directors, Executive Officers and Corporate Governance” and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

Our independent registered public accounting firm is Baker Tilly USA LLP, Tewksbury, MA, PCAOB ID #23.

The information required by this item is to be included in our Proxy Statement under the caption “Principal Accounting Fees and Services" and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)(1) Financial Statements.

The consolidated financial statements and supplementary data required by this item are set forth under Item 8 above.

(a)(2) Financial Statement Schedules.

All schedules have been omitted because they are not required or because the required information is given in the consolidated financial statements or notes thereto.

(a)(3) Exhibits.

The exhibits listed in the Exhibit Index below are filed or incorporated by reference as part of this Annual Report on Form 10-K.

Exhibit Index

Exhibit Number	Description of document
2.1†	Agreement and Plan of Merger, dated as of December 16, 2020, by and among Seneca Biopharma, Inc., Leading BioSciences, Inc. and Townsgate Acquisition Sub 1, Inc. (Incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2020).
3.1	Amended and Restated Certificate of Incorporation of the Registrant (Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 27, 2021).
3.2	Certificate of Designation of Series A 4.5% Convertible Preferred Stock (Incorporated by reference to Exhibit 3.01 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 12, 2016).
3.3	Amended and Restated Bylaws of the Registrant (Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 15, 2022).
3.4	Certificate of Designation of Series B Convertible Preferred Stock (Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 16, 2022).
3.5	Amendment to Amended and Restated Certificate of Incorporation of Palisade Bio, Inc., effective November 15, 2022 (Incorporated by reference to Exhibit 3.01(i) to the Registrant's Current Report on Form 8-K, filed with the SEC on November 16, 2022).
4.1	Reference is made to Exhibits 3.1, 3.2 and 3.3.
4.2	Description of Securities (incorporated by reference to Exhibit 4.2 to the Registrant's Form 10-K, filed with the SEC on March 17, 2022).
4.3	Specimen Common Stock Certificate. (Incorporated by reference to Exhibit 4.3 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 17, 2022).
4.4	Form of Series A Preferred Stock Certificate (Incorporated by reference to Exhibit 4.01 to the Registrant's Current Report on Form 8-K, filed with the SEC on September 12, 2016).
4.5	Form of Consulting Warrant issued January 2011 and March 2012 (Incorporated by reference to Exhibit 4.01 to the Registrant's Registration Statement on Form S-3 (File No. 333-188859) original filed with the SEC on May 24, 2013
4.6	Form of Common Stock Purchase Warrant from August 2017 Public Offering Dated August 1, 2017 (Incorporated by reference to Exhibit 4.01 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 28, 2017).
4.7	Form of Common Stock Purchase Warrant from October 2018 Offering (Incorporated by reference to Exhibit 4.01 to the Registrant's Current Report on Form 8-K, originally filed with the SEC on October 29, 2018)
4.8	Form of Placement Agent Common Stock Purchase Warrant from October 2018 Offering (Incorporated by reference to Exhibit 4.02 to the Registrant's Current Report on Form 8-K, originally filed with the SEC on October 29, 2018)
4.9	Consultant Warrant for Hibiscus BioVentures, LLC issued January 2019 (Incorporated by reference to Exhibit 4.40 to the Registrant's Form 10-Q, originally filed with the SEC on May 14, 2019)
4.10	Form of Series M and Series N warrant from July 2019 Offering (Incorporated by reference to Exhibit 4.45 to the Registrant's Registration Statement on Form S-1/A (File No. 333-232273), filed with the SEC on July 24, 2019)
4.11	Letter Agreement from January 2020 Offering (Incorporated by reference to Exhibit 10.01 to the Registrant's Current Report on Form 8-K, originally filed with the SEC on January 22, 2020)
4.12	Form of Series O Pre-Funded Warrant from July 2019 Offering (Incorporated by reference to Exhibit 4.45 to the Registrant's Registration Statement on Form S-1/A (File No. 333-232273), filed with the SEC on July 24, 2019)
4.13	Form of Series Q Replacement Warrant issued in January 2020 Offering (Incorporated by reference to Exhibit 4.02 to the Registrant's Current Report on Form 8-K, originally filed with the SEC on January 22, 2020)

4.14	Form of Placement Agent Agreement from January 2020 Offering (Incorporated by reference to Exhibit 10.02 to the Registrant's Current Report on Form 8-K, originally filed with the SEC on January 22, 2020)
4.15	Form of Placement Agent Warrant issued in January 2020 Offering (Incorporated by reference to Exhibit 4.03 to the Registrant's Current Report on Form 8-K, originally filed with the SEC on January 22, 2020)
4.16	Form of Placement Agent Warrant issued in May 2020 Offering (Incorporated by reference to Exhibit 4.01 to the Registrant's Current Report on Form 8-K, originally filed with the SEC on May 27, 2020)
4.17	Form of Securities Purchase Agreement with Investors from May 2020 Offering (Incorporated by reference to Exhibit 10.01 to the Registrant's Current Report on Form 8-K, originally filed with the SEC on May 27, 2020)
4.18	Form of Warrant to Purchase Shares of Common Stock of Leading BioSciences, Inc. (Incorporated by reference to Exhibit 4.30 to the Registrant's Registration Statement on Form S-4 (File No. 333-251659), originally filed with the SEC on December 23, 2020, as amended).
4.19	Form of Bridge Warrant of Leading BioSciences, Inc. (Incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2020).
4.20	Form of Equity Warrant of Leading BioSciences, Inc. (Incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2020).
4.21†	Registration Rights Agreement, by and between Seneca Biopharma, Inc. and the investor party thereto, dated December 16, 2020 (Incorporated by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2020).
4.22	Waiver Agreement, dated as of July 21, 2021, by and between Palisade Bio, Inc. and Altium Growth Fund, LP (Incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 22, 2021).
4.23	Warrant, dated as of July 21, 2021, issued to Altium Growth Fund, LP (Incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 22, 2021).
4.24	Waiver Agreement, dated as of January 31, 2022, by and between Palisade Bio, Inc. and Altium Growth Fund, LP (Incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 21, 2022).
4.25	Warrant, dated as of January 31, 2022, issued to Altium Growth Fund, LP (Incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 21, 2022).
4.26	Securities Purchase Agreement, dated as of August 19, 2021, by and between Palisade Bio, Inc. and Yuma Regional Medical Center (Incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 24, 2021).
4.27	Warrant, dated as of August 19, 2021, issued to Yuma Regional Medical Center (Incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 24, 2021).
4.28	Form of Common Stock Purchase Warrant (Incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on May 6, 2022).
4.29	Form of Placement Agent Warrant (Incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on May 6, 2022).
4.30	Form of Series 1 Common Stock Warrant (Incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 16, 2022).
4.31	Form of Series 2 Common Stock Warrant (Incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 16, 2022).
4.32	Warrant Agency Agreement dated August 16, 2022, by and between Palisade Bio, Inc. and American Stock Transfer and Trust Company, LLC. (Incorporated by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 16, 2022).
4.33	Form of Series B Preferred Stock Certificate of Registrant (Incorporated by reference to Exhibit 4.33 to the Registrant's Registration Statement on Form S-1/A, filed with the SEC on August 9, 2022).
4.34	Form of Underwriter Warrant issued August 16, 2022 (Incorporated by reference to Exhibit 4.33 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on November 14, 2022).

4.35	Form of Registered Prefunded Warrant issued in January 2023 Registered Offering (Incorporated by reference to Exhibit 4.01 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 4, 2023).
4.36	Form of Prefunded Warrant issued in January 2023 Private Placement (Incorporated by reference to Exhibit 4.02 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 4, 2023).
4.37	Form of Warrant issued in January 2023 Private Placement (Incorporated by reference to Exhibit 4.03 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 4, 2023).
4.38	Form of Placement Agent Warrant issued in January 2023 Private Placement (Incorporated by reference to Exhibit 4.04 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 4, 2023).
10.1[#]	Seneca Biopharma 2019 Equity Incentive Plan (Incorporated by reference to Appendix A to the Registrant's Definitive Proxy Statement, originally filed with the SEC on April 29, 2019)
10.2[#]	Form of Restricted Option Grant from 2019 Equity Incentive Plan (Incorporated by reference to Exhibit 4.43 to the Registrant's Registration Statement on Form S-1 (File No. 333-232273), originally filed with the SEC on June 21, 2019, originally filed with the SEC on June 21, 2019)
10.3[#]	License Agreement, by and between Leading BioSciences, Inc. and The Regents of the University of California, dated August 19, 2015, as amended on December 20, 2019 (Incorporated by reference to Exhibit 10.18 to the Registrant's Registration Statement on Form S-4 (File No. 333-251659), originally filed with the SEC on December 23, 2020, as amended).
10.4[#]	License Agreement, by and between Leading BioSciences, Inc. and The Regents of the University of California, dated April 1, 2020 (Incorporated by reference to Exhibit 10.19 to the Registrant's Registration Statement on Form S-4 (File No. 333-251659), originally filed with the SEC on December 23, 2020, as amended).
10.5[#]	License Agreement, by and between Palisade Bio, Inc. and The Regents of the University of California, dated July 6, 2021 (incorporated by reference to Exhibit 10.5 to the Registrant's Form 10-K, filed with the SEC on March 17, 2022).
10.6[#]	Co-Development and Distribution Agreement, by and between Leading BioSciences, Inc. and Newsoara Biopharma Co., Ltd. (as successor-in-interest to Biolead Medical Technology Limited), dated February 17, 2018, as amended on November 27, 2018 (Incorporated by reference to Exhibit 10.20 to the Registrant's Registration Statement on Form S-4 (File No. 333-251659), originally filed with the SEC on December 23, 2020, as amended).
10.7	Form of Seneca Biopharma, Inc. Support Agreement, dated as of December 16, 2020, by and between Leading BioSciences, Inc. and each of the parties named in each agreement therein (Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2020).
10.8	Form of Leading BioSciences, Inc. Support Agreement, dated as of December 16, 2020, by and between Seneca Biopharma, Inc. and each of the parties named in each agreement therein(Incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2020).
10.9[†]	Securities Purchase Agreement, by and between Leading BioSciences, Inc. and the investor party thereto, dated December 16, 2020 (Incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2020).
10.10[†]	Securities Purchase Agreement, by and among Seneca Biopharma, Inc., Leading BioSciences, Inc. and the investor party thereto, dated December 16, 2020 (Incorporated by reference to Exhibit 10.6 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2020).
10.11	Amendment Agreement to Securities Purchase Agreement by and among, the Company, Leading BioSciences, Inc. and Altium Growth Fund, LP, dated May 3, 2021 (Incorporated by reference to Exhibit 10.03 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on May 14, 2021).
10.12	Form of Separation Agreement with Seneca Biopharma, Inc. Executives (Incorporated by reference to Exhibit 10.01 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 18, 2021).

10.13†	Contingent Value Rights Agreement, dated as of April 27, 2021, by and among the Company, American Stock Transfer & Trust Company, LLC and Raul Silvestre (Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 27, 2021).
10.14+	Form of Indemnification Agreement (incorporated by reference from Exhibit 10.03 to the Registrant's Current Report on Form 8-K filed with the SEC on December 18, 2018).
10.15+	Leading BioSciences, Inc. Amended and Restated 2013 Employee, Director and Consultant Equity Incentive Plan and Forms of Stock Option Grant Notice, Stock Option Agreement and Notice of Exercise of Stock Option thereunder (Incorporated by reference to Exhibit 10.24 to the Registrant's Registration Statement on Form S-4 (File No. 333-251659), originally filed with the SEC on December 23, 2020, as amended).
10.16+	Palisade Bio, Inc. 2021 Equity Incentive Plan, as amended (Incorporated by reference to Exhibit 10.6 to the Registrant's Current Report on Form 8-K, filed with the SEC on November 23, 2021).
10.17+	Form of Stock Option Grant Notice, Stock Option Agreement and Notice of Exercise under the Palisade Bio, Inc. 2021 Equity Incentive Plan (Incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K, filed with the SEC on November 23, 2021).
10.18+	Form of Non-Employee Director Stock Option Grant Notice, Stock Option Agreement and Notice of Exercise under the Palisade Bio, Inc. 2021 Equity Incentive Plan (Incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K, filed with the SEC on November 23, 2021).
10.19+	Palisade Bio, Inc. Employee Stock Purchase Plan (Incorporated by reference to Exhibit 4.30 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on August 23, 2021).
10.20+	Palisade Bio, Inc. 2021 Inducement Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on November 23, 2021).
10.21+	Form of Restricted Stock Unit Grant Notice and Award Agreement under the Palisade Bio, Inc. 2021 Inducement Incentive Plan (Incorporated by reference to Exhibit 99.1 to the Registrant's Registration Statement on Form S-8 (File No. 333-261196), filed with the SEC on November 19, 2021).
10.22+	Form of Stock Option Grant Notice and Award Agreement under the Palisade Bio, Inc. 2021 Inducement Incentive Plan (Incorporated by reference to Exhibit 99.2 to the Registrant's Registration Statement on Form S-8 (File No. 333-261196), filed with the SEC on November 19, 2021).
10.23*+	Non-Employee Director Compensation Policy
10.24+	Amended and Restated Executive Employment Agreement, by and between Leading BioSciences, Inc. and JD Finley, dated January 24, 2021(Incorporated by reference to Exhibit 10.23 to the Registrant's Registration Statement on Form S-4 (File No. 333-251659), originally filed with the SEC on December 23, 2020, as amended).
10.25+	Executive Employment Agreement, by and between Leading BioSciences, Inc. and Thomas Hallam, Ph.D., dated December 16, 2020 (Incorporated by reference to Exhibit 10.22 to the Registrant's Registration Statement on Form S-4 (File No. 333-251659), originally filed with the SEC on December 23, 2020, as amended).
10.26+	Executive Employment Agreement, by and between Leading BioSciences, Inc. and Michael Dawson, M.D., dated December 16, 2020 (Incorporated by reference to Exhibit 10.21 to the Registrant's Registration Statement on Form S-4 (File No. 333-251659), originally filed with the SEC on December 23, 2020, as amended).
10.27†	Asset Transfer Agreement, by and between Alto Neuroscience, Inc. and Palisade Bio, Inc., dated October 18, 2021 (incorporated by reference to Exhibit 10.27 to the Registrant's Form 10-K, filed with the SEC on March 17, 2022).
10.28	Office Lease Between AP Beacon Carlsbad, LP, and Palisade Bio, Inc., dated May 12, 2022 (Incorporate by reference to Exhibit 10.1 to the Registrant's Form 10-Q filed with the SEC on May 13, 2022).
10.29	First Amendment dated July 14, 2022 to the Office Lease Between AP Beacon Carlsbad, LP, and Palisade Bio, Inc., dated May 12, 2022 (Incorporated by reference to Exhibit 10.2 to the Registrants Form 10-Q filed with the SEC on August 15, 2022).

10.30	Form of Securities Purchase Agreement, dated May 6, 2022, by and among the Company and the purchasers named therein (Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on May 6, 2022).
10.31+	Separation Agreement and Release with former Chief Executive Officer (Incorporated by reference to Exhibit 10.01 to the Registrant's Current Report on Form 8-K filed with the SEC on October 14, 2022).
10.32	Form of Securities Purchase Agreement dated December 30, 2022, by and among the Company and the purchasers named therein (Incorporated by Reference to Exhibit 10.01 to the Registrant's Current report on Form 8-K, filed with the SEC on January 4, 2023).
10.33	Form of Registration Rights Agreement, dated December 30, 2022, by and among the Company and signatories named therein (Incorporated by reference to Exhibit 10.02 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 4, 2023).
10.34	Form of Placement Agency Agreement, dated December 30, 2022, by and between the Company and Ladenburg Thalmann & Co Inc. (Incorporated by reference to Exhibit 10.03 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 4, 2023).
10.35*+	Form of First Amendment Consulting Agreement dated January 25, 2023 by and between Dr. Herbert Slade and the Company.
10.36*+	Form of Consulting Agreement dated April 7, 2023 by and between Dr. Herbert Slade and the Company.
16.1	Letter dated July 8, 2021 from Dixon Hughes Goodman LLP to the Securities and Exchange Commission (incorporated by reference to Exhibit 16.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 9, 2021).
16.2	Letter dated September 26, 2022 from BDO USA, LLP to the Securities and Exchange Commission (incorporated by reference to Exhibit 16.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on September 26, 2022).
19.1*	Registrant's Insider Trading Policy.
21.1*	Subsidiaries of the Registrant.
23.1*	Consent of BDO USA LLP, Independent Registered Public Accounting Firm.
23.2*	Consent of Baker Tilly USA LLP, Independent Registered Public Accounting Firm
24.1*	Power of Attorney (included in signature page)
31.1*	Certification of Principal Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) of the Exchange Act.
31.2*	Certification of Principal Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) of the Exchange Act.
32.1**	Certification of Principal Executive Officer and Principal Financial Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act, and 18 U.S.C. Section 1350.
101.INS*	Inline XBRL Instance Document-the instance document does not appear in the Interactive Data File as its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema.
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase.
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase.
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase.
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase.
104*	Cover Page Interactive Data File (embedded within the Inline XBRL and contained in Exhibit 101).

* Filed herewith
** Furnished herewith.
+ Indicates management contract or compensatory plan.
# Certain portions of this exhibit (indicated by "[***]") have been omitted as we have determined (i) the omitted information is not material and (ii) the omitted information would likely cause harm to us if publicly disclosed.

† Schedules and exhibits to the Agreement have been omitted pursuant to Item 601(a)(5) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished to the Securities and Exchange Commission upon request.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized**.**

PALISADE BIO, INC.

Date: March 22, 2023

By: /s/ J.D. Finley
J.D. Finley
Interim Chief Executive Officer,
Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints J.D. Finley, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place, and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming that all said attorneys-in-fact and agents, or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Name	Title	Date
/s/ J.D. Finley **J.D. Finley**	Interim Chief Executive Officer, Chief Financial Officer and Director (Principal Executive and Financial Officer)	March 22, 2023
/s/ James R. Neal **James R. Neal**	Chairman of the Board of Directors	March 22, 2023
/s/ Cristina Csimma, Pharm.D. **Cristina Csimma, Pharm.D.**	Director	March 22, 2023
/s/ Stephanie Diaz **Stephanie Diaz**	Director	March 22, 2023
/s/ Mary Ann Gray, Ph.D **Mary Ann Gray, Ph.D**	Director	March 22, 2023
/s/ Robert J. Trenschel, D.O. **Robert J. Trenschel, D.O.**	Director	March 22, 2023
/s/ Binxian Wei **Binxian Wei**	Director	March 22, 2023
/s/ Donald A. Williams **Donald A. Williams**	Director	March 22, 2023

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 14A
Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934
(Amendment No.__)

Filed by the Registrant ☒
Filed by a party other than the Registrant ☐

Check the appropriate box:

☐ Preliminary Proxy Statement
☐ Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
☒ Definitive Proxy Statement
☐ Definitive Additional Materials
☐ Soliciting Material under § 240.14a-12

PALISADE BIO, INC.
(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

☒ No fee required
☐ Fee paid previously with preliminary materials
☐ Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11

PALISADE BIO, INC.
7750 El Camino Real, Suite 2A
Carlsbad, California 92009

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held on June 8, 2023

Dear Stockholder:

You are cordially invited to attend the 2023 Annual Meeting of Stockholders (the "Annual Meeting") of Palisade Bio, Inc., a Delaware corporation (the "Company"), to be held on the 8th day of June, 2023, at 10:00 a.m. Pacific Time. In light of the COVID-19 pandemic, to support the health and well- being of our stockholders, employees and directors, and taking into account recent federal, state and local guidance, the Annual Meeting will be held in a virtual meeting format only, via live webcast on the Internet, with no physical in-person meeting. You will be able to attend and participate in the Annual Meeting online by visiting www.proxydocs.com/PALI, where you will be able to listen to the meeting live, submit questions and vote. You will need to register at www.proxydocs.com/PALI in order to attend the Annual Meeting virtually. You will need to have the 12-digit control number included in the Notice of Internet Availability of Proxy Materials, on your proxy card or on the instructions that accompanied your proxy materials to join the virtual Annual Meeting. You will not be able to attend the meeting in person. As always, we encourage you to vote your shares prior to the Annual Meeting. We are holding the Annual Meeting for the following purposes, which are more fully described in the accompanying proxy statement ("Proxy Statement"):

1. To elect the three nominees to serve as Class III directors which are named in the accompanying proxy statement, each to hold office until the 2026 Annual Meeting of Stockholders or until a successor is duly elected and qualified or until the director's earlier death, resignation or removal. We refer to this proposal as the "Director Election Proposal" or "Proposal 1."

2. To ratify the appointment of Baker Tilly US, LLP, as our independent registered public accounting firm for the fiscal year ending December 31, 2023. We refer to this proposal as the "Auditor Ratification Proposal" or "Proposal 2."

3. To approve amendments to the Palisade 2021 Equity Incentive Plan to increase (i) the number of shares of common stock issuable under the plan by 708,072 shares, and (ii) the annual evergreen share increase amount from 4% to 7.5% of the outstanding shares of common stock on January 1 of each year; and the approval of conditional grants to employees which are exercisable or convertible for up to an aggregate of 209,700 shares of common stock. We refer to this proposal as the "Incentive Plan Proposal" or "Proposal 3."

4. To approve amendments to the Palisade 2021 Employee stock Purchase Plan to increase (i) the number of shares of common stock authorized under the plan by 109,944 shares, and (ii) the annual evergreen share increase amount from 1% to 2.5% of the outstanding shares of common stock on January 1 of each year. We refer to this proposal as the "Purchase Plan Proposal" or "Proposal 4."

5. To approve, on a non-binding advisory basis, the compensation of our named executive officers, as disclosed in this proxy statement. We refer to this proposal as the "Say-On-Pay Proposal" or "Proposal 5."

6. To approve, on a non-binding advisory basis, the frequency of holding future advisory votes on executive compensation every 1, 2, or 3 years. We refer to this proposal as the "Frequency of Say-On-Pay Proposal" or "Proposal 6."

7. To conduct any other business properly brought before the Annual Meeting.

These items of business are more fully described in the Proxy Statement accompanying this Notice.

We have elected to provide electronic access to our Annual Meeting proxy materials, which include the Proxy Statement accompanying this notice, in lieu of mailing printed copies. On or about April 26, 2023, we expect to mail to our stockholders a Notice of Internet Availability of Proxy Materials (the "Notice") containing instructions on how to access our Proxy Statement and our 2022 Annual Report on Form 10-K (the "2022 Annual Report").

The Notice provides instructions on how to vote online or by telephone and how to receive a paper copy of the proxy materials by mail. Our proxy statement and 2022 Annual Report can be accessed directly at the Internet address www.proxydocs.com/PALI using the control number located on your Notice, and also on your proxy card or voting instruction form, as applicable, if you have received printed proxy materials.

The record date for the Annual Meeting is April 10, 2023. Only stockholders of record at the close of business on that date may vote at the meeting or any adjournment thereof.

You will not be able to attend the Annual Meeting in person.

By Order of the Board of Directors

/s/ James R. Neal

James R. Neal
Chairman
April 21, 2023

You are cordially invited to virtually attend the Annual Meeting online. Whether or not you expect to virtually attend the Annual Meeting, PLEASE VOTE YOUR SHARES. As an alternative to voting online, you may vote via telephone or, if you receive a paper proxy card by mailing the completed proxy card. Voting instructions are provided in the instructions printed on your proxy card.

Even if you have voted by proxy, you may still vote online at the Annual Meeting. Please note, however, that if your shares are held of record by a broker, bank or other agent and you wish to vote at the Annual Meeting, you must follow the instructions from such organization and will need to obtain a proxy issued in your name from that record holder.

PALISADE BIO, INC.
7750 El Camino Real, Suite 2A
Carlsbad, California 92009

PROXY STATEMENT
FOR THE 2023 ANNUAL MEETING OF STOCKHOLDERS
TO BE HOLD ON JUNE 8, 2023

Our Board of Directors ("Board") is soliciting your proxy to vote at the 2023 Annual Meeting of Stockholders (the "Annual Meeting") of Palisade Bio, Inc., a Delaware corporation (sometimes referred to as "we," "us," the "Company" or "Palisade") to be held virtually, via a live interactive audio webcast at www.proxydocs.com/PALI, on June 8, 2023, at 10:00 a.m. Pacific Time, and any adjournment or postponement thereof. Stockholders attending the virtual meeting will be afforded the same rights and opportunities to participate as they would at an in-person meeting.

For the Annual Meeting, we have elected to furnish our proxy materials, including this proxy statement ("Proxy Statement") and our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 (the "Annual Report"), to our stockholders primarily via the internet. On or about April 26, 2023, we expect to mail to our stockholders a Notice of Internet Availability of Proxy Materials (the "Notice") that contains notice of the Annual Meeting and instructions on how to access our proxy materials on the internet, how to vote at the Annual Meeting and how to request printed copies of the proxy materials.

Only stockholders of record at the close of business on April 10, 2023 (the "Record Date") will be entitled to vote at the Annual Meeting. On the Record Date, there were 5,781,919 shares of common stock outstanding and entitled to vote. A list of stockholders entitled to vote at the Annual Meeting will be available for examination by stockholders for any purpose germane to the Annual Meeting for ten days prior to the Annual Meeting during normal business hours at our headquarters in Carlsbad, California. To arrange for this, please contact us in advance at ir@palisadebio.com.

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Why did I receive a notice regarding the availability of proxy materials on the internet?

Pursuant to rules adopted by the SEC, we have elected to provide access to our proxy materials over the internet. Accordingly, we have sent you the Notice because the Board is soliciting your proxy to vote at the Annual Meeting, including at any adjournments or postponements of the Annual Meeting. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice or request to receive a printed set of the proxy materials. Instructions on how to access the proxy materials over the internet or to request a printed copy may be found in the Notice.

We intend to mail the Notice on or about April 26, 2023 to all stockholders of record entitled to vote at the Annual Meeting.

Where and when is the Annual Meeting?

The Annual Meeting will be held virtually via live webcast on June 8, 2023, at 10:00 a.m. Pacific Time. There will be no physical meeting location. **You will not be able to attend the Annual Meeting in person**. A summary of the information you need to attend the Annual Meeting online is provided below:

- You must register in advance at www.proxydocs.com/PALI. Upon completing your registration, you will receive further instructions via email, including your link that will allow you access to the meeting.
- To enter the meeting, you must register in advance using your 12-digit control number, which is available on your proxy card or notice. Upon completing registration, you will receive further instructions via email, including your link that will allow you to access the meeting.
- If you do not have your 12-digit control number, you will not be able to register to attend the meeting.
- Instructions on how to connect to and participate in the Annual Meeting via the internet, including how to demonstrate proof of stock ownership, are posted at www.proxydocs.com/PALI.

Stockholders who timely and correctly register to attend the Annual Meeting will receive an email approximately one hour before the Annual Meeting with instructions and a link to attend the Annual Meeting. We recommend that you log in a few minutes before 10:00 a.m. Pacific Time to ensure you are logged in when the Annual Meeting starts. The information on our website is not incorporated by reference into this proxy statement or our Annual Report. If you are a beneficial stockholder, you should contact the bank, broker or other institution where you hold your account well in advance of the meeting if you have questions about obtaining your control number proxy to vote.

If you plan to vote during the Annual Meeting, you may still do so even if you have already returned your proxy**.**

What if I have technical difficulties or trouble accessing the live webcast of the Annual Meeting?

On the day of the Annual Meeting, if you encounter any difficulties assessing the live webcast of the Annual Meeting or during the Annual Meeting, please call the technical support number that will be posted on the log-in page for our virtual Annual Meeting for assistance.

Who can vote at the Annual Meeting?

Voting Shares

Only stockholders of record at the close of business on April 10, 2023, (the "Record Date") will be entitled to vote at the Annual Meeting. On the Record Date, there were 5,781,919 shares of common stock outstanding and entitled to vote.

Non-Voting Shares

As of the Record Date, we also had 200,000 shares of Series A 4.5% Convertible Preferred Stock (which are currently convertible into an aggregate of 129 shares of common stock) that are outstanding but that have no voting rights with respect to the matters described in this Proxy Statement.

Stockholder of Record: Shares Registered in Your Name

If, on the Record Date, your shares were registered directly in your name with Palisade's transfer agent, American Stock Transfer & Trust Company, LLC, then you are a stockholder of record. As a stockholder of record, you may vote online at the Annual Meeting or vote by proxy. Whether or not you plan to attend the Annual Meeting, we urge you to fill out and return the proxy card, or vote by proxy over the telephone or on the internet as instructed below to ensure your vote is counted.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank

If, on the Record Date, your shares were held in an account at a brokerage firm, bank, dealer or other similar organization, then you are the beneficial owner of shares held in "street name" and the Notice is being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct your broker or other agent regarding how to vote the shares in your account. You are also invited to attend the Annual Meeting virtually. However, since you are not the stockholder of record, you may not vote your shares online at the Annual Meeting unless you request and obtain a valid proxy from your broker or other agent.

What am I voting on?

There are six proposals being presented for stockholder vote:

1. To elect the three nominees to serve as Class III directors which are named in the accompanying proxy statement, each to hold office until the 2026 Annual Meeting of Stockholders or until a successor is duly elected and qualified or until the director's earlier death, resignation or removal. We refer to this proposal as the "Director Election Proposal" or "Proposal 1."

2. To ratify the appointment of Baker Tilly US, LLP, as our independent registered public accounting firm for the fiscal year ending December 31, 2023. We refer to this proposal as the "Auditor Ratification Proposal" or "Proposal 2."

3. To approve amendments to the Palisade 2021 Equity Incentive Plan to increase (i) the number of shares of common stock issuable under the plan by 708,072 shares and (ii) the annual evergreen share increase amount from 4% to 7.5% of the outstanding shares of common stock on January 1 of each year; and the approval of conditional grants to employees which are exercisable or convertible for up to an aggregate of 209,700 shares of common stock. We refer to this proposal as the "Incentive Plan Proposal" or "Proposal 3."

4. To approve amendments to the Palisade 2021 Employee stock Purchase Plan to increase (i) the number of shares of common stock authorized under the plan by 109,944 shares, and (ii) the annual evergreen share increase amount from 1% to 2.5% of the outstanding shares of common stock on January 1 of each year. We refer to this proposal as the "Purchase Plan Proposal" or "Proposal 4."

5. To approve, on a non-binding advisory basis, the compensation of our named executive officers, as disclosed in this proxy statement. We refer to this proposal as the "Say-On-Pay Proposal" or "Proposal 5."

6. To approve, on a non-binding advisory basis, the frequency of holding future advisory votes on executive compensation every 1, 2, or 3 years. We refer to this proposal as the "Frequency of Say-On-Pay Proposal" or "Proposal 6."

7. To conduct any other business properly brought before the Annual Meeting.

What if another matter is properly brought before the Annual Meeting?

We currently know of no other matters that will be presented for consideration at the Annual Meeting. If any other matters are properly brought before the Annual Meeting, it is the intention of the persons named in the accompanying proxy to vote on those matters in accordance with their best judgment.

How do I vote?

The procedures for voting are as follows:

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record, you may vote online at the Annual Meeting, over the telephone, through the internet or using a proxy card that you may request. Whether or not you plan to attend the Annual Meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the Annual Meeting and vote online even if you have already voted by proxy.

- **VOTE BY PHONE:** To vote over the telephone, dial toll-free **1-866-243-5513**, using any touch-tone telephone and follow the recorded instructions. You will be asked to provide the control number from the proxy card.

- **VOTE BY INTERNET:** You may vote at **www.proxypush.com/PALI** to complete an electronic proxy card. You will be asked to provide the control number from the proxy card.

- **VOTE BY PROXY CARD:** To vote using a proxy card, simply complete, sign and date the proxy card that may be delivered and return it promptly in the envelope we have provided. If you return your signed proxy card to us before the Annual Meeting, we will vote your shares as you directed.

- **VOTE DURING THE ANNUAL MEETING:** To vote online during the Annual Meeting, follow the provided instructions to join the Annual Meeting at www.proxydocs.com/PALI, starting at 9:30 a.m. Pacific Time on June 8, 2023. Stockholders who register in advance to attend the Annual Meeting will be able to vote during the meeting until the polls are declared closed. The 12-digit control number is required to register.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received materials containing voting instructions from that organization rather than from the Company. Simply follow the voting instructions to ensure that your vote is counted. To vote online at the Annual Meeting, you may be required to obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form. You must register using your control number at www.proxydocs.com/PALI and follow the instructions you receive.

We provide internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies.

Can I vote my shares by filling out and returning the Notice?

No. The Notice identifies the items to be voted on at the Annual Meeting, but you cannot vote by marking the Notice and returning it. The Notice provides instructions on how to vote through the internet, by telephone, by using a printed proxy card or by submitting a ballot online during the Annual Meeting.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of the close of business on April 10, 2023, the Record Date.

What happens if I do not vote?

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record and do not vote by telephone, through the internet, or online at the Annual Meeting, your shares will not be voted.

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted, as applicable: "For" the Director Election Proposal, "For" the Auditor Ratification Proposal, "For" the Incentive Plan Proposal, "For" the Purchase Plan Proposal, "For" the Say-On-Pay Proposal, and "3 Years" for the Frequency of Say-On-Pay Proposal. If any other matter is properly presented at the Annual Meeting, your proxyholder (one of the individuals named on your proxy card) will vote your shares using his or her best judgment. If the Annual Meeting is adjourned, continued, or postponed, the proxyholder may vote the shares at the adjourned, continued or postponed meeting as well, unless you have properly revoked your voting instructions, as described herein.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If you are a beneficial owner and do not instruct your broker, bank, or other agent how to vote your shares, the question of whether your broker or nominee will still be able to vote your shares depends on whether the New York Stock Exchange, or the NYSE, deems the particular proposal to be a "routine" matter. Brokers and nominees can use their discretion to vote "uninstructed" shares with respect to matters that are considered to be "routine," but not with respect to "non-routine" matters. Under the rules of the NYSE applicable to brokers and agents, "non-routine" matters are matters that may substantially affect the rights or privileges of stockholders, such as mergers, stockholder proposals, elections of directors (even if not contested), executive compensation (including any advisory stockholder votes on executive compensation and on the frequency of stockholder votes on executive compensation), and certain corporate governance proposals, even if management-supported. Accordingly, we believe that your broker or nominee will **not** be permitted to vote your shares on the Director Election Proposal (Proposal 1), the Incentive Plan Proposal (Proposal 3), the Purchase Plan Proposal (Proposal 4), the Say-On-Pay Proposal (Proposal 5), and the Frequency of Say-On-Pay Proposal (Proposal 6); but will be permitted to vote shares on the Auditor Ratification Proposal (Proposal 2). However, this remains subject to the final determination from the NYSE regarding which of the proposals are "routine" or "non-routine."

If you are a beneficial owner of shares held in street name, in order to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your broker, bank, dealer or other agent by the deadline provided in the materials you receive from your broker, bank, dealer or other agent.

Who is paying for this proxy solicitation?

We will pay for the entire cost of soliciting proxies. In addition to these proxy materials, our directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners. We have engaged Mediant Communications Inc. to assist in the solicitation of proxies and provide related advice and informational support, for a services fee and the reimbursement of customary disbursements, which are not expected to exceed $15,200 in total.

What does it mean if I receive more than one Notice?

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Stockholder of Record: Shares Registered in Your Name

Yes. You can revoke your proxy at any time before the final vote at the Annual Meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

- You may submit another properly completed proxy card with a later date.
- You may grant a subsequent proxy by telephone or through the internet.

- You may send a timely written notice that you are revoking your proxy to Palisade Bio, Inc., Attn: Corporate Secretary, 7750 El Camino Real, Suite 2A, Carlsbad, California 92009.

- You may vote during the Annual Meeting which will be hosted via the Internet. Simply attending the Annual Meeting online will not, by itself, revoke your proxy. Even if you plan to attend the Annual Meeting online, we recommend that you also submit your proxy or voting instructions or vote by telephone or through the internet so that your vote will be counted if you later decide not to attend the Annual Meeting online.

Your most current proxy card or telephone or internet proxy is the one that is counted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If your shares are held by your broker or bank as a nominee or agent, you should follow the instructions provided by your broker or bank.

How are votes counted?

Votes will be counted by the inspector of election appointed for the meeting, who will separately count "For" and "Against" votes, abstentions and broker non-votes.

With respect to the Director Election Proposal (Proposal 1), stockholders do not affirmatively vote "Against" nominees. Instead, if you do not want to vote for a particular nominee, you should choose to "Withhold" a vote in favor of the applicable nominee for director.

With respect to the Auditor Ratification Proposal (Proposal 2), the Incentive Plan Proposal (Proposal 3), the Purchase Plan Proposal (Proposal 4), and the Say-On-Pay Proposal (Proposal 5), the inspector of elections will separately count votes "For" and "Against," abstentions and, if applicable, broker non-votes.

With respect to the Frequency of Say-On-Pay Proposal (Proposal 6), the inspector of elections will separately count votes for "1 Year, "2 Years," and "3 Years," and abstentions.

Abstentions will be counted towards the vote total for Proposal 2, Proposal 3, Proposal 4, and Proposal 5, and will have the same effect as "Against" votes. Abstentions will have no effect on Proposal 1 or Proposal 6.

As described below, for all of the Proposals, broker non-votes will be counted towards the presence of a quorum but will not be counted towards the vote total, assuming that a quorum is obtained.

What are "broker non-votes"?

When a beneficial owner of shares held in "street name" does not give instructions to the broker or nominee holding the shares as to how to vote on matters deemed to be non-routine under applicable rules, the broker or nominee cannot vote the shares on such matters. These unvoted shares are counted as "broker non-votes." If received, broker non-votes will be counted towards the presence of a quorum but will not be counted towards the vote total for all Proposals.

How many votes are needed to approve each proposal?

- *Proposal 1* – For the Director Election Proposal, the three nominees receiving the most "For" votes from the holders of shares present in remote communication or represented by proxy at the Annual Meeting and entitled to vote on the subject matter. Only votes "For" or "Withhold" will affect the outcome. Broker non-votes, if any, will have no effect.

- *Proposal 2* – Approval of the Auditor Ratification Proposal will require the affirmative vote of the majority of shares present in remote communication or represented by proxy at the meeting and entitled to vote on the subject matter. Abstentions will have the same effect as "AGAINST" votes. Broker non-votes will have no effect on this proposal.

- *Proposal 3* – Approval of the Incentive Plan Proposal will require the affirmative vote of the majority of shares present in remote communication or represented by proxy at the meeting and entitled to vote on the subject matter. Abstentions will have the same effect as "AGAINST" votes. Broker non-votes, if any, will have no effect on this proposal.

- *Proposal 4* – Approval of the Purchase Plan Proposal will require the affirmative vote of the majority of shares present in remote communication or represented by proxy at the meeting and entitled to vote on the subject matter. Abstentions will have the same effect as "AGAINST" votes. Broker non-votes, if any, will have no effect on this proposal.

- *Proposal 5* – Approval of the Say-On-Pay Proposal will require the affirmative vote of the majority of shares present in remote communication or represented by proxy at the meeting and entitled to vote on the subject matter. Abstentions will have the same effect as "AGAINST" votes. Broker non-votes, if any, will have no effect on this proposal.

- *Proposal 6* – Approval of the Frequency of Say-On-Pay Proposal, the frequency that receives the highest number of votes cast will be deemed to be the frequency selected by our stockholders. Abstentions and broker non-votes, if any, will have no effect on this proposal.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least one-third (1/3) of the outstanding shares entitled to vote are present at the Annual Meeting online or represented by proxy. On the Record Date, April 10, 2023, there were 5,781,919 shares outstanding and entitled to vote. Thus, the holders of 1,927,307 shares must be present online or represented by proxy at the Annual Meeting to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote online at the Annual Meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the holders of a majority of shares present at the Annual Meeting online or represented by proxy may adjourn the Annual Meeting to another date.

How can I find out the results of the voting at the Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the Annual Meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

When are stockholder proposals and director nominations due for next year's Annual Meeting?

To be considered for inclusion in the Company's proxy materials for next year's 2024 annual meeting of stockholders (the "2024 Annual Meeting"), your proposal must be submitted in writing by December 22, 2023, to: Secretary of Palisade Bio, Inc., 7750 El Camino Real, Suite 2A, Carlsbad, California 92009. If you wish to submit a proposal (including a director nomination) that is not to be included in the Company's proxy materials for next year's 2024 Annual Meeting, you must do so between February 9, 2024, and March 10, 2024. You are also advised to review the Company's amended and restated bylaws, which contain additional requirements relating to advance notice of stockholder proposals and director nominations.

In addition to satisfying the foregoing requirements under our bylaws, to comply with the universal proxy, stockholders who intend to solicit proxies in support of director nominees other than our Board's nominees must provide notice that sets forth any additional information required by Rule 14a-19 promulgated under the Securities Exchange Act of 1934, as amended, no later than April 9, 2024.

In the event that we hold our 2024 Annual Meeting of Stockholders more than 30 days before or after the one-year anniversary date of the 2023 annual meeting of stockholders, then notice of a stockholder proposal that is not intended to be included in our proxy statement must be received not later than the close of business on the earlier of the following two dates:

- the 10th day following the day on which notice of the meeting date is mailed, or

- the 10th day following the day on which public disclosure of the meeting date is made.

If a stockholder who has notified us of his or her intention to present a proposal at an annual meeting does not appear to present his or her proposal at such meeting, we are not required to present the proposal for a vote at such meeting.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information regarding beneficial ownership of our capital stock by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock;
- each of our directors;
- each of our named executive officers; and
- all of our current executive officers and directors as a group.

The information in the following table is calculated based on 5,781,919 shares of our common stock outstanding as of April 5, 2023.

Beneficial ownership is determined according to the rules of the SEC. Beneficial ownership means that a person has or shares voting or investment power of a security and includes any securities that person or group has the right to acquire within 60 days after the measurement date, including upon the exercise of common stock purchase options or warrants.

Name of Beneficial Owner(1)	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
Greater than 5% Stockholders		
Armistice Capital, LLC (2)	633,271	9.99%
Directors and Named Executive Officers		
James R. Neal(3)	1,290	*
Thomas Hallam, Ph.D.(4)	2,751	*
Stephanie C. Diaz(5)	1,258	*
Donald Williams(6)	1,258	*
Mary Ann Gray, Ph.D.(7)	1,046	*
Cristina Csimma, Pharm.D., MHP(8)	1,010	*
Robert J. Trenschel, D.O.(9)	46,605	*
Binxian Wei(10)	1,006	*
J.D. Finley(11)	13,950	*
Michael Dawson, M.D.(12)	300	*
Herbert Slade, MD FAAAAI (13)	-	*
Robert McRae (14)	1,855	*
All directors and executive officers as a group (9 persons)(15)	72,329	**1.25%**

* Represents less than one percent

(1) Except as otherwise indicated in the footnotes to this table, this table is based upon information supplied by officers, directors and principal stockholders and Schedules 13D and 13G, and Form 4s, filed with the SEC. Unless otherwise indicated in the footnotes to this table and subject to community property laws where applicable, we believe that each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Shares of our common stock underlying options, warrants and convertible securities that are currently exercisable or exercisable within 60 days of April 5, 2023 are deemed to be outstanding for the purpose of computing the number of shares held and the percent of total ownership of the person holding those options, warrants or convertible securities, but are not treated as outstanding for the purpose of computing the percent of total ownership of any other person. Applicable percentages are based on 5,781,919 shares of common stock outstanding on April 5, 2023, adjusted as required by rules promulgated by the SEC. Unless otherwise indicated, the address of the beneficial owner is c/o Palisade Bio, Inc. 7750 El Camino Real, Suite 2A, Carlsbad, CA 92009.

(2) Includes (i) 76,140 shares of common stock and 557,131 common shares underlying prefunded warrants that have a beneficial ownership limitation of 9.99%. The amounts exclude an additional 1,885,492 common shares underlying warrants consisting of (i) 1,760,560 common stock warrants with a 4.99% ownership limitation and (ii) 124,932 prefunded warrants with a 9.99% beneficial ownership limitation, based off internal records of Company regarding ownership of Armistice Capital, LLC. The Address of beneficial owner is 510 Madison Avenue, 7th Floor, New York, NY 10022.

(3) Includes 1,290 shares of common stock underlying stock options.

(4) Includes (i) 1,151 shares of common stock, and (ii) 1,600 shares of common stock underlying common stock purchase warrants. Dr. Hallam ceased to be an officer and director of the Company effective October 11, 2022.

(5) Includes 1,258 shares of common stock underlying stock options.

(6) Includes 1,258 shares of common stock underlying stock options.

(7) Includes 80 shares of common stock, and 966 shares of common stock underlying stock options.

(8) Includes 44 shares of common stock, and 966 shares of common stock underlying stock options.

(9) Includes (a) 299 shares of common stock, and 1,282 shares of common stock underlying stock options and (b) (i) 36,287 shares of common stock and (ii) 8,737 shares of common stock that may be acquired within 60 days pursuant to the exercise of outstanding warrants held by Yuma Regional Medical Center. The board of directors of Yuma Regional Medical Center, acting by a majority vote, has the authority to direct the vote and/or disposition of any and all shares of common stock and warrants held by Yuma Regional Medical Center. The address of Yuma Regional Medical Center is 2400 South Avenue A, Yuma, Arizona, 85364. Dr. Trenschel is the President, Chief Executive Officer and member of the board of directors of Yuma Regional Medical Center and shares voting and investment power over the shares held by Yuma Regional Medical Center. Dr. Trenschel also serves on our board of directors.

(10) Includes (i) 40 shares of common stock and (ii) 966 shares of common stock underlying stock options.

(11) Consists of (a)(i) 3,848 shares of common stock held by Mr. Finley, (ii) 4,008 shares of common stock that may be acquired pursuant to the exercise of outstanding warrants held by Mr. Finley, (iii) 5,281 shares of common stock underlying options held by Mr. Finley, (b)(i) 777 shares of common stock held by FCW Investments LLC, (ii) 33 shares of common stock underlying warrants held by FCW Investments, LLC, and (c) 3 shares underlying warrants held by Pacific Premier Trust Co. The address for Pacific Premier Trust Co, Custodian FBO J.D. Finley IRA is PO Box 173859, Denver, CO 80217. The address for FCW Investments LLC is 19 Cherrymoor Dr, Englewood, CO 80113. Mr. Finley has sole investment and voting power over the shares held by Pacific Premier Trust Co, Custodian FBO J.D. Finley IRA and FCW Investments LLC. Does not include (i) 57,200 options, (ii) 41,700 restricted stock units (RSU's), and (iii) 32,500 performance stock units (PSUs), which are all conditional grants issued on February 6, 2023 to Mr. Finley, that are subject to shareholder approval. Assuming shareholder approval is received, the options and RSU's vest quarterly in 12 equal instalments over a three-year period, and the PSUs vest based on volume weighted average trading price of the Company's common stock – see "Certain Related Party Transactions" in this Proxy Statement for a further discussion of the vesting conditions. Such conditional grants are all being solicited for shareholder approval in this Proxy Statement.

(12) Includes 300 shares of common stock. Dr. Dawson ceased to be an officer of the Company effective October 11, 2022.

(13) Dr. Slade was appointed to serve as our Chief Medical Officer on November 17, 2022.

(14) Mr. McRae was appointed to serve as our Chief Operating Officer on February 2, 2023. Includes (i) 625 shares of common stock held by Mr. McRae, (ii) 440 shares of common stock that may be acquired pursuant to the exercise of outstanding warrants held by Mr. McRae, and (iii) 750 shares of common stock underlying options held by Mr. McRae. Does not include (i) 12,000 options, (ii) 8,800 restricted stock units (RSU's), and (iii) 17,900 performance stock units (PSUs), which are all conditional grants issued on February 6, 2023 to Mr. McRae, that are subject to shareholder approval. Assuming shareholder approval is received, the options and RSU's vest quarterly in 12 equal instalments over a three-year period, and the PSUs vest based on volume weighted average trading price of the Company's common stock – see "Certain Related Party Transactions" in this Proxy Statement for a further discussion of the vesting conditions. Such conditional grants are all being solicited for shareholder approval in this Proxy Statement.

(15) Includes the shares described in footnotes (3)-(14) above.

DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The names of our directors and executive officers and their ages, positions, and biographies as of April 15, 2023 are set forth below. There are no family relationships among any of our directors or executive officers.

Name	Position	Age	Position Since
Named Executive Officers			
J.D. Finley	CFO, Interim CEO, Director	65	2021
Herbert Slade, MD FAAAAI	Chief Medical Officer	68	2022
Robert McRae	Chief Operating Officer	39	2023
Independent Directors			
James R. Neal	Director	67	2021
Stephanie C. Diaz	Director	57	2021
Cristina Csimma, Pharm.D., MHP	Director	64	2017
Donald Williams	Director	64	2021
Robert J. Trenschel, D.O.	Director	61	2021
Mary Ann Gray, Ph.D.	Director	70	2019
Binxian Wei	Director (Series A Preferred)	53	2019

J.D. Finley*,* has served as the Company's Chief Financial Officer since April 2021. Previously, Mr. Finley served as Leading Biosciences, Inc's (the Company's wholly owned subsidiary and predecessor company) Chief Financial Officer since January 2017 and as a member of board of directors of Leading Biosciences, Inc. (the "LBS Board") since December 2014. Prior to joining Leading Biosciences, Inc., Mr. Finley was Chief Executive Officer of PointAcross, Inc., a marketing company, from January 2016 to January 2017. Mr. Finley previously co-founded Proteus Capital Partners, Inc., a firm specializing in providing financing for a variety of businesses, and was CFO at Phillips Capital, a broker/dealer firm specializing in private debt and equity capital raises. From March 2011 to June 2012 Mr. Finley was Executive Vice President, and from June 2012 to April 2014, Mr. Finley was President of Goldmail. Mr. Finley received a B.A. in business administration from Boise State University and an M.S. in Taxation from the University of Denver. The Board believes Mr. Finley's experience and familiarity with the company, its operations and the life science industry qualify him to serve on the Board.

Herbert Slade, has over 25 years of leadership experience in the pharmaceutical and medical device industries, demonstrating execution of regulatory negotiations with the U.S. Food and Drug Administration and European Medicines Agency, and the design, conduct, and reporting of clinical programs. Since 2007, Dr. Slade has been serving as the Adjunct Clinical Assistant Professor of the Department of Pediatrics at the Texas College of Osteopathic Medicine. Since 2018, he has also been serving as the treasurer and member of the Board of Directors of the Wound Healing Society, a 501(c)3 organization. He serves as President and Managing Director of Chisholm Clinical Research Services, a Texas limited liability company, where he provides assistance with the clinical development of promising new products for 6 client companies in the US and EU. From 2012 to 2016, Dr. Slade served as Chief Medical Officer and then Sr. Vice President of Research and Development in the Advanced Wound Management department of Smith and Nephew, plc, where he was responsible for restructuring 3 strategic business R&D departments and two clinical groups into a single worldwide R&D organization. Prior to that, from 2006 to 2012, Dr. Slade served as Chief Medical Officer and Sr. Vice President at DFB Pharmaceuticals, a private Texas company, until it was acquired by Smith & Nephew in 2012. Dr. Slade has additionally served in various chief medical officer and other senior positions of various private and public pharmaceutical companies throughout his career. Dr. Slade received a bachelor's degree from Hamilton College in Clinton, NY, a Medical Degree from State University of New York in Syracuse, NY, a Pediatrics category PL-1 from State University of New York, a Pediatrics category PL-2 from C.S. Mott Children's Hospital in Ann Arbor, MI, and a fellowship in Basic and Clinical Immunology from the University of Michigan in Ann Arbor, MI.

Robert McRae, was appointed as our Chief Operating Officer effective February 2, 2023. Previously, Mr. McRae served as Palisade Bio's Senior Vice President of Operations and Strategic Development since December 2021. Prior to joining Palisade Bio, Mr. McRae held multiple positions at Viracta Therapeutics [Nasdaq: VIRX], an oncology focused biotechnology company, including Vice President, Operations and Strategic Alliances (2019-2021), Vice President, Operations (2018-2019), Vice President, Research and Development (2018), and Senior Director, Research and Development Operations and Alliance Management (2017-2018). Prior to Viracta, Mr. McRae held multiple positions at CTI Clinical Trial and Consulting Services, including business development and clinical study management from 2010-2017. Mr. McRae holds a BS in Biological Sciences from Wright State University.

James R. Neal, has served as a member of the Company's Board since April 2021. Previously, Mr. Neal served as a member of the LBS Board since November 2017. Mr. Neal has also served as the Chief Executive Officer and board member of XOMA Corporation, a biotechnology company, since December 2016 until December 31, 2022 [Nasdaq: XOMA]. Since July 2021, Mr. Neal also serves on the Board of Directors and as Audit Committee Chair of Monterey Innovation Acquisition Corp. a public SPAC [Nasdaq: MTRYW]. Since October 2022, Mr. Neal has served on the Board of Directors of Peak Bio, Inc. [OTC: PKBO]. Additionally, since July 2022, Mr. Neal has served on the Board of Directors of Processa Pharmaceuticals [Nasdaq: PCSA]. Previously, Mr. Neal served as the Chief Business Officer of Entelos Inc. from September 2007 to July 2010. From July 2002 to August 2007, Mr. Neal served as the Chief Executive Officer of Iconix Biosciences, Inc. From 1999 to 2002, Mr. Neal served as the Chief Executive Officer of Incyte Genomics. Mr. Neal received a B.S. in biology and an M.S. in genetics and plant breeding from the University of Manitoba, Canada, and an executive MBA from Washington University in St. Louis, Missouri. The Board believes Mr. Neal's experience as a board member and broad experience in the life science industry qualify him to serve on the Board.

Stephanie C. Diaz, has served as a member of the Board since April 2021 and previously served on the LBS Board since May 2019. Ms. Diaz serves as the President and CEO of Vida Strategic Partners, Inc., which she founded in 2002. Prior to founding Vida, Ms. Diaz served as senior vice president and director, for Burns McClellan, a national healthcare communications agency. From 1993 to 2002, Ms. Diaz held a number of senior financial management positions with several biotech and life science companies, serving as vice president and chief financial officer of Shaman Pharmaceuticals, Inc., director of finance of Hyseq, Inc. (now Nuvelo, Inc.), and director of finance of Martek Biosciences Corporation. Ms. Diaz also currently serves as an advisor for California Life Sciences (CLS), mentoring life science start-up companies including: Pendulum Therapeutics, Ciel Medical, Correlia Biosystems, EpiBiome, Paragon Genomics and Trellis Biosciences. Ms. Diaz received a B.A. in international relations from Stanford University and an MBA from Georgetown University. The Board believes Ms. Diaz's experience as a board member, advisor, and officer in life science companies qualify her to serve on the Board.

Cristina Csimma, Pharm.D, MHP, has served on our board of directors since September 2017. She also serves on the Board of Directors of Aceragen (ACGN) (formerly Idera Pharmaceuticals), a clinical stage biopharmaceutical company, Caraway Therapeutics, a preclinical stage biopharmaceutical company, and Syncona Ltd, a UK-based leading health care company that funds a portfolio of life science companies, and on various advisory boards, including: the Muscular Dystrophy Association Venture Philanthropy Scientific Advisory Committee; the Executive Oversight Board to the National Institutes of Health (NIH) NeuroNext Network; the Harvard and Brigham and Women's Hospital MRCT Center External Advisory Board, and the TREAT-NMD Advisory Committee for Therapeutics (TACT) She was previously the Executive Chair of the Board of Directors of Forendo Pharma, a clinical stage biopharmaceutical company and of Exonics Therapeutics, a Director of Juniper Pharmaceuticals (acquired in August 2018 by Catalent), Vtesse (acquired in March 2017 by Sucampo Pharmaceuticals) and Cydan, where she was also President and founding CEO, the Vice President of Drug Development at Virdante Pharmaceuticals Inc (acquired by Momenta), Principal at Clarus Ventures LLC, and held roles in Clinical Development and Translational Research at Wyeth (now Pfizer), Genetics Institute and Dana Farber Cancer Institute. Dr. Csimma holds both a Doctor of Pharmacy and a Bachelor of Science in Pharmacy from the Massachusetts College of Pharmacy and Allied Health Sciences, as well as a Master of Health Professions from Northeastern University. In selecting Dr. Csimma, the board took into account her vast experience in the pharmaceutical industry, including her successes in developing drugs for various diseases throughout her career. The Board believes Dr. Csimma's experience as a board member and broad experience in the life science industry qualify her to serve on the Board.

Donald Williams, has served as a member of the Board since April 2021. Previously, Mr. Williams served on the LBS Board since May 2019. Mr. Williams has served as a member of the board of directors of Akari Therapeutics PLC since June 2016, a member of the board of directors of Forte Biosciences, Inc. since 2020, and a member of the board of directors of ImpediMed, Inc. since 2017. From 2014 to 2019, Mr. Williams was a member of the board of directors of Adhera Therapeutics, Inc. From 2015 to 2021, Mr. Williams a member of the board of directors of Alphatec Spine, Inc. From 2007 to 2014, Mr. Williams was a Partner and the National Life Sciences Leader for Grant Thornton LLP, and spent over 20 years as a partner at Ernst & Young LLP. From 2001 to 2014, Mr. Williams served on the board of directors of the San Diego Venture Group, during which time he also served as the group's president and chairman. Mr. Williams was also a founding member of the Young VCs of Southern California. Mr. Williams received a B.A. in accountancy from Southern Illinois University and completed the director education and certification program at the University of California, Los Angeles Anderson School of Business. The Board believes Mr. Williams' experience as a board member and public accountant in the life science industry qualify him to serve on the Board.

Robert J. Trenschel, D.O., has served as a member of the Board since April 2021. Previously, Dr. Trenschel served as a member of the LBS Board since March 2019. Dr. Trenschel also serves as the President and Chief Executive Officer of Yuma Regional Medical Center since July 2015. Previously, Dr. Trenschel served as the Executive Vice President of Harris Health System from July 2013 to June 2015. From April 2012 to July 2013, Dr. Trenschel served as the Senior Vice President of Medical Group Operations for Aurora Health Care. From 2007 to 2012, Dr. Trenschel served as the Senior Vice President, Administrator of Ambulatory Operations, of Harris Health System. Dr. Trenschel received an M.P.H. from Florida International University and a Doctor of Osteopathic Medicine from Nova Southeastern University College of Osteopathic Medicine. The Board believes Dr. Trenschel's experience as a medical doctor and hospital system leadership qualify him to serve on the Board.

Mary Ann Gray, Ph.D., has been a professional board member for over 15 years. She has served in a variety of positions including lead independent director, audit committee chair and compensation committee chair. The companies that she has worked with have ranged from small pre-clinical companies to larger commercial companies. The scientific focus of these companies has been broad and includes neuroscience, rare disease and cancer, among others. She is President of Gray Strategic Advisors, LLC which provides strategic advice to both public and private biotechnology companies. Previously, she spent three and a half years with the Federated Kaufmann Fund focusing on both public and private healthcare investments. Prior to joining the Kaufmann Fund, Dr. Gray was a sell-side biotechnology analyst for nine years with Kidder Peabody, Dillon Read and Raymond James. In addition to serving on our Board, Dr. Gray currently serves on the board of four other public biotechnology companies: Compass Therapeutics [Nasdaq: CMPX] since July 2022, Rapt Therapeutics [Nasdaq: RAPT] since December 2019, BioAtla Inc. [Nasdaq: BCAB] since December 2020, and Keros Therapeutics [Nasdaq: KROS] since December 2020. She serves on the Nominating and Governance at BioAtla, Compensation Committee at Keros, Audit Chair at Keros, Rapt, BioaAtla, and Compass Therapeutics. Previously, she served on the boards of Acadia Pharmaceuticals, Senomyx Inc., TetraLogic Inc. and Juniper Pharmaceuticals. At Acadia she served as chair of the audit committee and also served on the compensation committee. At Senomyx she was chair of the compensation committee. At TetraLogic, she was chair of the audit committee. At Juniper, she was chair of the audit committee.Dr. Gray has also served on the boards of Dyax Corp.(public) where she was lead independent director, GTC BioTherapeutics (public), Telik Inc.(public), Galena Pharmaceuticals (GALE) and Apthera Inc. (private). Dr. Gray has a Ph.D. in Pharmacology from the University of Vermont where she focused on novel chemotherapeutic agents for the treatment of cancer. She did post-doctoral work at Northwestern University Medical School and Yale University School of Medicine. She held scientific positions at Schering Plough and NeoRx. Earlier in her career, Dr. Gray managed pre-clinical toxicology studies for the National Cancer Institute through Battelle Memorial Institute and worked in hospital laboratoryThe Board believes Dr. Gray's experience as a board member and broad experience in the life science industry qualify her to serve on the Board.

Binxian Wei, has served as a member of the Board since February 2019. Mr. Wei has been the V.P. of Darsheng Trade & Tech. Development Co, Ltd. (a subsidiary to Tianjin Tiayo Pharmaceutical Co., Ltd.) since 2015. Mr. Wei is responsible for API and finished dosage marketing for Chinese pharmaceutical companies. From 2008 through 2010, he worked as a business development manager for Sakai Trading. Mr. Wei received a master's degree in mathematical & computer sciences from Colorado School of Mines, a master's degree and B.S. in chemical engineering from Tianjin University in China. Binxian Wei was appointed as the director representative of the Series A 4.5% Convertible Preferred Stock by Tianjin Pharmaceuticals Group International Holdings Co., LTD, the sole holder of Palisade's outstanding Series A 4.5% Convertible Preferred Stock. The Board believes Mr. Wei's experience as a board member and pharmaceutical experience qualify him to serve on the Board.

Board of Directors

The Board is divided into three classes. Each class consists, as nearly as possible, of one-third of the total number of directors, and each class has a three-year term. Vacancies on the Board may be filled only by persons elected by a majority of the remaining directors. A director elected by the Board to fill a vacancy in a class, including vacancies created by an increase in the number of directors, shall serve for the remainder of the full term of that class and until the director's successor is duly elected and qualified. The holder of our Series A 4.5% Convertible Preferred Stock has the right to appoint one member of the Board.

The Board presently has eight (8) members. There are three Class III directors whose term of office expire in 2023: (i) James R. Neal, (ii) Mary Ann Gray, Ph.D., and (iii) J.D. Finley. Our business, property and affairs are managed under the direction of the Board. Members of the Board are kept informed of our business through discussions with the Chief Executive Officer and other officers, by reviewing materials provided to them and by participating in meetings of the Board and its committees.

Our Board is responsible for establishing broad corporate policies and for overseeing our overall management. In addition to considering various matters which require its approval, the Board provides advice and counsel to, and ultimately monitors the performance of, our senior management.

Board Meetings

During 2022, the Board held fifteen (15) meetings (including regularly scheduled and special meetings) and acted through unanimous written consent four (4) times. Each director attended at least 75% of all meetings of the general Board and each respective committee on which such director serves during their time of service. The Board currently holds regularly scheduled meetings and calls for special meetings or acts through unanimous written consents as necessary. Meetings of the Board may be held virtually or telephonically. Directors are expected to attend all board meetings and meetings of the committees of the board on which they serve and to spend the time needed and meet as frequently as necessary to properly discharge their duties. As required under applicable Nasdaq listing standards, in 2022, our independent directors met six (6) times in scheduled executive sessions at which only independent directors were present. Information with regard to committee meetings and written consent is provided for below in the section of this proxy statement entitled "Committees." Although attendance of meetings is encouraged, we do not have a formal policy regarding attendance by directors at board and committee meetings.

Attendance at 2022 Annual Meeting

Although we do not have a formal policy regarding attendance by members of our board of directors at annual meetings of stockholders, we encourage, but do not require, directors and nominees for director to attend. All of our directors attended the annual meeting of stockholders in 2022.

Classification of Board

Pursuant to our bylaws, we have a classified Board which is divided into three classes with staggered three-year terms. Only one class may be elected each year, while the directors in the other classes continue to hold office for the remainder of their three-year terms. The Board may, on its own, determine the size of the exact number of directors on the Board and may fill vacancies on the Board. Notwithstanding, the holder of our Series A 4.5% Convertible Preferred Stock has the right to appoint one board member. Binxian Wei has been appointed and currently serves as such director since February 5, 2019. The procedure for electing and removing directors on a classified board of directors generally makes it more difficult for stockholders to change management control by replacing a majority of the board at any one time, and the classified board structure may discourage a third-party tender offer or other attempt to gain control of the Company and may maintain the incumbency of directors. In addition, under our bylaws, directors may only be removed from office by a vote of the majority of the shares then outstanding and eligible to vote. The current classes of our directors are as follows:

1. Class I Directors – (i) Stephanie Diaz and (ii) Dr. Cristina Csimma (Terms expiring at 2024 Annual Meeting);
2. Class II Directors – (i) Donald Williams and (ii) Dr. Robert Trenschel (Terms expiring at 2025 Annual Meeting);
3. Class III Directors (i) James Neal, (ii) J.D. Finley, and (iii) Dr. Mary Ann Gray (Terms expiring at 2023 Annual Meeting); and
4. Series A 4.5% Convertible Preferred Stock Director – (i) Binxian Wei.

Independent Directors

As required under the Nasdaq Stock Market ("Nasdaq") listing standards, a majority of the members of a listed company's board of directors must qualify as "independent," as affirmatively determined by the board of directors. Our Board consults with our counsel to ensure that the Board's determinations are consistent with relevant securities and other laws and regulations regarding the definition of "independent," including those set forth in pertinent listing standards of Nasdaq, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director, or any of their family members, and the Company, its senior management and its independent auditors, the Board has affirmatively determined that each of (i) Mr. Neal, (ii) Ms. Diaz, (iii) Mr. Williams, (iv) Dr. Gray, (v) Dr. Csimma, (vi) Dr. Trenschel and (vii) Mr. Wei are independent directors within the meaning of the applicable Nasdaq listing standards. In making this determination, the Board found that none of these directors had a material or other disqualifying relationship with the Company.

Board Diversity

The Board Diversity Matrix, below, provides the diversity statistics for our Board of Directors.

Board Diversity Matrix (As of April 5, 2023)

Total Number of Directors	8			
	Female	**Male**	**Non- Binary**	**Did Not Disclose Gender**
Part I: Gender Identity				
Directors	3	5	—	—
Part II: Demographic Background				
African American or Black	—	—	—	—
Alaskan Native or Native American	—	—	—	—
Asian	—	1	—	—
Hispanic or Latinx	1	—	—	—
Native Hawaiian or Pacific Islander	—	—	—	—
White	2	3	—	—
Two or More Races or Ethnicities	—	1	—	—
LGBTQ+	—			
Did Not Disclose Demographic Background	—			

For more information on how the Governance and Nominating Committee considers diversity, refer to "Directors, Executive Officers and Corporate Governance—Governance and Nominating Committee."

Board Leadership Structure

The Board has an independent chair, Mr. Neal, who has authority, among other things, to call and preside over Board meetings, including meetings of the independent directors, to set meeting agendas and to determine materials to be distributed to the Board. Accordingly, the Board Chair has substantial ability to shape the work of the Board. The Company believes that separation of the positions of Board Chair and Chief Executive Officer reinforces the independence of the Board in its oversight of the business and affairs of the Company. In addition, the Company believes that having an independent Board Chair creates an environment that is more conducive to objective evaluation and oversight of management's performance, increasing management accountability and improving the ability of the Board to monitor whether management's actions are in the best interests of the Company and its shareholders. As a result, the Company believes that having an independent Board Chair can enhance the effectiveness of the Board as a whole.

Role of the Board in Risk Oversight

One of the Board's key functions is informed oversight of the Company's risk management process. The Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through various Board standing committees that address risks inherent in their respective areas of oversight. In particular, our Board is responsible for monitoring and assessing strategic risk exposure, including a determination of the nature and level of risk appropriate for the Company. Our Audit Committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The Audit Committee also monitors compliance with legal and regulatory requirements, in addition to oversight of the performance of our internal audit function. Audit Committee responsibilities also include oversight of cybersecurity risk management, and, to that end, the committee typically meets twice annually with both IT and business personnel responsible for cybersecurity risk management and receives periodic reports from the head of cybersecurity risk management, as well as incidental reports as matters arise. Our Governance and Nominating Committee monitors the effectiveness of our corporate governance guidelines, including whether they are successful in preventing illegal or improper liability-creating conduct. Our Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. Our Strategy and Finance Committee evaluates, approves in certain scenarios, and makes recommendations to the Board, with respect to the overall strategy of the Company with respect to potential strategic transactions and equity or debt financing transactions of the Company. Typically, the entire Board meets with the head of the Company's risk management group at least annually, and the applicable Board committees meet at least annually with the employees responsible for risk management in the committees' respective areas of oversight. Both the Board as a whole and the various standing committees receive periodic reports from the head of risk management, as well as incidental reports as matters may arise. It is the responsibility of the committee chairs to report findings regarding material risk exposures to the Board as quickly as possible. The Board has delegated to the Board's lead independent director the responsibility of coordinating between the Board and management with regard to the determination and implementation of responses to any problematic risk management issues.

Stockholder Communications with the Board of Directors

We have adopted a formal process for stockholder communications with our independent directors. Individuals wanting to communicate with our directors are invited to communicate with the non-management members of the Board by sending correspondence to the Board, c/o Corporate Secretary, Palisade Bio, Inc., 7750 El Camino Real, Suite 2A, Carlsbad, CA 92009. These communications will be reviewed by the Secretary of Palisade, who will determine whether the communication is appropriate for presentation to the Board or the relevant director. The purpose of this screening is to allow the Board to avoid having to consider irrelevant or inappropriate communications (such as advertisements, solicitations and hostile communications). The screening procedures have been approved by a majority of the independent directors. All communications directed to the Audit Committee in accordance with our Code of Business Conduct and Ethics policy or reported or on our Ethics Point whistleblower hotline that relate to questionable accounting or auditing matters will be promptly and directly forwarded to the Audit Committee, at the discretion of our compliance officer.

Code of Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all of our officers, directors and employees. The Code of Business Conduct and Ethics is available on the Company's website at www.palisadebio.com under the section entitled "Governance Documents." The information on our website is not incorporated by reference into this proxy statement or our Annual Report for fiscal year 2022. If we make any substantive amendments to the Code of Business Conduct and Ethics or grant any waiver from a provision of the code to any executive officer or director, the Company will promptly disclose the nature of the amendment or waiver on its website.

Insider Trading Policy

We have adopted an Insider Trading Policy governing the purchase, sale, and/or other dispositions of our securities by directors, officers, employees, and the Company itself. A copy of the policy is attached as Exhibit 19.1 to our Annual Report on Form 10-K for the year ended December 31, 2022 filed with the SEC on March 22, 2023.

Hedging Policy

As part of our insider trading policy, no officer, director, other employee or consultant or any family members of such persons who reside with them, anyone else who lives in their households or any family members of such persons who do not live in their households but whose transactions in the Company's securities are directed by, or subject to, the influence or control of such persons may engage in short sales, transactions in put or call options, hedging transactions or other inherently speculative transactions with respect to our common stock at any time. In addition, no officer, director, other employee or consultant may margin, or make any offer to margin, any of our common stock, including without limitation, borrowing against such stock, at any time.

* The disclosure under the caption "Hedging Policy" is not to be incorporated by reference in any filing of the Company under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

Information Regarding Committees of the Board of Directors

The Board has four committees: an Audit Committee, a Compensation Committee, a Governance and Nominating Committee and a Strategy and Finance Committee. The following table provides, as of March 31, 2023, membership and meeting information for each of the Board committees:

Director	Audit Committee	Compensation Committee	Governance and Nominating Committee	Strategy and Finance Committee
James R. Neal		C	X	X
Stephanie C. Diaz	X		C	
Donald A. Williams	C			
Mary Ann Gray, Ph.D.				C
Cristina Csimma, Pharm.D., MHP		X		
Robert J. Trenschel, D.O.	X			
J.D. Finley (not Independent)				X

X = Current member of committee
C = Current member and chairperson of the committee

Audit Committee

The Audit Committee of the Board was established by the Board in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), to oversee the Company's corporate accounting and financial reporting processes and audits of its financial statements. For this purpose, the Audit Committee performs several functions. The Audit Committee evaluates the performance of and assesses the qualifications of the independent auditors; determines and approves the engagement of the independent auditors; determines whether to retain or terminate the existing independent auditors or to appoint and engage new independent auditors; reviews and approves the retention of the independent auditors to perform any proposed permissible non-audit services; monitors the rotation of partners of the independent auditors on the Company's audit engagement team as required by law; reviews and approves or rejects transactions between the Company and any related persons; confers with management and the independent auditors regarding the effectiveness of internal control over financial reporting; establishes procedures, as required under applicable law, for the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls or auditing matters and the confidential and anonymous submission by employees of concerns regarding questionable accounting or auditing matters; and meets to review the Company's annual audited financial statements and quarterly financial statements with management and the independent auditor, including a review of the Company's disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations."

The Audit Committee is composed of three directors: Mr. Williams (Chair), Ms. Diaz and Dr. Trenschel. The Audit Committee met five (5) times and acted through unanimous written consent two (2) time during the year ended December 31, 2022. The Board has adopted a written Audit Committee charter that is available to stockholders on the Company's website at www.palisadebio.com under the section entitled "Governance Documents." The information on our website is not incorporated by reference into this proxy statement or our Annual Report for fiscal year 2022.

The Board reviews the Nasdaq listing standards definition of independence for Audit Committee members on an annual basis and has determined that all members of the Company's Audit Committee are independent (as independence is currently defined in Rule 5605(c)(2)(A)(i) and (ii) of the Nasdaq listing standards).

The Board has also determined that Mr. Williams qualifies as an "audit committee financial expert," as defined in applicable SEC rules. The Board made a qualitative assessment of Mr. Williams level of knowledge and experience based on a number of factors, including his formal education and his tenure as a partner at Grant Thornton LLP and his tenure as a partner at Ernst & Young LLP.

Report of the Audit Committee of the Board*

The Audit Committee has reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2022 with management of the Company. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board ("PCAOB") and the SEC. The Audit Committee has also received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent registered accountant firm's communications with the Audit Committee concerning independence, and has discussed with the independent registered public accounting firm the accounting firm's independence. Based on the foregoing, the Audit Committee has recommended to the Board that the audited financial statements be included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Donald Williams (Chair)
Stephanie C. Diaz
Robert Trenschel, D.O.

* *The material in this report is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference in any filing of the Company under the Exchange Act or the Securities Act of 1933, as amended (the "Securities Act"), whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.*

Compensation Committee

The Compensation Committee is currently composed of two directors: Mr. Neal (Chair) and Dr. Csimma. The Board has determined that each member of the Compensation Committee is independent (as independence is currently defined in Rule 5605(d)(2) of the Nasdaq listing standards), a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act and an "outside director" as that term is defined in Section 162(m) of the Internal Revenue Code of 1986, as amended. The Compensation Committee met seven (7) times and acted through unanimous written consent three (3) times during the year ended December 31, 2022. The Board has adopted a written Compensation Committee charter that is available to stockholders on the Company's website at www.palisadebio.com under the section entitled "Governance Documents." The information on our website is not incorporated by reference into this proxy statement or our Annual Report for fiscal year 2022.

The Compensation Committee of the Board acts on behalf of the Board to review, modify (as needed) or approve (or, if it deems appropriate, making recommendations to the Board regarding) the overall compensation strategy and policies for the Company, including, among other things:

- reviewing and approving (or, if it deems appropriate, making recommendations to the Board regarding) corporate performance goals and objectives, which shall support and reinforce the Company's long-term strategic goals, relevant to the Company's compensation plans and programs;

- evaluating and approving (or, if it deems appropriate, making recommendations to the Board regarding) the compensation plans and programs advisable for the Company, as well as the modification or termination of existing plans and programs;

- evaluating (including, if it deems appropriate, with the input of some or all of the other members of the Board) risks associated with and potential consequences of the Company's compensation policies and practices, as applicable to all employees of the Company, and assessing whether risks and consequences arising from the Company's compensation policies and practices for its employees, as may be mitigated by any other compensation policies and practices, are reasonably likely to have a material adverse effect on the Company;

- establishing policies with respect to equity compensation arrangements, with the objective of appropriately balancing the perceived value of equity compensation and the dilutive and other costs of that compensation to the Company; and

- evaluating the efficacy of the Company's compensation policy and strategy in achieving expected benefits to the Company and otherwise furthering the Committee's policies.

Compensation Committee Processes and Procedures

Typically, the Compensation Committee meets at least once annually and with greater frequency if necessary. The agenda for each meeting is usually developed by the Chair of the Compensation Committee, in consultation with management. The Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees as well as outside advisors or consultants may be invited by the Compensation Committee to make presentations, to provide financial or other background information or advice or to otherwise participate in Compensation Committee meetings. The Chief Executive Officer does not participate in and is not present during any deliberations or determinations of the Compensation Committee regarding his compensation or individual performance objectives. The charter of the Compensation Committee grants the Compensation Committee full access to all books, records, facilities and personnel of the Company. In addition, under its charter, the Compensation Committee has the authority to obtain, at the expense of the Company, advice and assistance from compensation consultants and internal and external legal, accounting or other advisors and other external resources that the Compensation Committee considers necessary or appropriate in the performance of its duties. The Compensation Committee has direct responsibility for the oversight of the work of any consultants or advisers engaged for the purpose of advising the Compensation Committee. In particular, the Compensation Committee has the sole authority to retain, in its sole discretion, compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant's reasonable fees and other retention terms. Under its charter, to the extent required by the SEC and Nasdaq rules, the Compensation Committee may select, or receive advice from, a compensation consultant, legal counsel or other adviser to the compensation committee, other than in-house legal counsel and certain other types of advisers, only after taking into consideration six factors, prescribed by the SEC and Nasdaq, that bear upon the adviser's independence; however, there is no requirement that any adviser be independent.

During the year ended December 31, 2022, after taking into consideration the six factors prescribed by the SEC and Nasdaq described above, the Compensation Committee engaged Compensia Inc. ("Compensia") as its compensation consultant. Our Compensation Committee identified Compensia based on its general reputation in the industry and experience providing similar services to companies similar to Palisade. The Compensation Committee requested that Compensia:

- evaluate the efficacy of the Company's existing compensation strategy and practices in supporting and reinforcing the Company's long-term strategic goals (including through a peer group analysis); and

- assist in refining the Company's compensation strategy and in developing and implementing executive and non-employee director compensation programs to execute that strategy.

In addition, under its charter, the Compensation Committee may form and delegate authority to subcommittees as appropriate.

The Compensation Committee holds one or more meetings during the first quarter of the year to discuss and make recommendations to the Board for annual base salary compensation adjustments, annual bonuses, annual equity awards, and current year corporate performance objectives. However, the Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of the Company's compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee's process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. For executives other than the Chief Executive Officer, the Compensation Committee solicits and considers evaluations and recommendations submitted to the Compensation Committee by the Chief Executive Officer. In the case of the Chief Executive Officer, the evaluation of his performance is conducted by the Compensation Committee, which determines recommendations to the Board regarding any adjustments to his compensation as well as equity awards to be granted. For all executives and directors as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current Company-wide compensation levels, compensation data from comparative companies, compensation surveys, and recommendations of any compensation consultant, if applicable. The Compensation Committee considered the peer-group analysis from Compensia when making compensation decisions. Based on this analysis, the overall average of the 2022 cash compensation for the Company's named executive officers was below the 50th percentile of the peer group.

Governance and Nominating Committee

The Governance and Nominating Committee of the Board is responsible for identifying, reviewing and evaluating candidates to serve as directors of the Company (consistent with criteria approved by the Board), reviewing and evaluating incumbent directors, selecting or recommending to the Board for selection candidates for election to the Board, making recommendations to the Board regarding the membership of the committees of the Board, assessing the performance of the Board, and developing a set of corporate governance principles for the Company.

The Governance and Nominating Committee is currently composed of two directors: Ms. Diaz (Chair) and Mr. Neal. Each member of the Governance and Nominating Committee is independent (as independence is currently defined in Rule 5605(a)(2) of the Nasdaq listing standards), a non-employee director and free from any relationship that would interfere with the exercise of his or her independent judgment. The Governance and Nominating Committee met one (1) time and acted through unanimous written consent one (1) time during the year ended December 31, 2022. The Board has adopted a written Governance and Nominating Committee charter that is available to stockholders on the Company's website at www.palisadebio.com under the section entitled "Governance Documents." The information on our website is not incorporated by reference into this proxy statement or our Annual Report for year ended December 31, 2022.

The responsibilities of the Governance and Nominating Committee include, among other things:

- identifying and evaluating candidates, including the nomination of incumbent directors for reelection and nominees recommended by stockholders, to serve on the Board;
- considering and making recommendations to the Board regarding the composition and chairmanship of the committees of the Board;
- considering the need for and, if necessary, developing and instituting plans or programs for the continuing education of the Board; and
- developing corporate governance principles to be applicable to the Company.

The Governance and Nominating Committee believes that candidates for director should have certain minimum qualifications, including the ability to read and understand basic financial statements, being over 21 years of age and having the highest personal integrity and ethics. The Governance and Nominating Committee also intends to consider such factors as possessing relevant expertise upon which to be able to offer advice and guidance to management, having sufficient time to devote to the affairs of the Company, demonstrated excellence in his or her field, having the ability to exercise sound business judgment and having the commitment to rigorously represent the long-term interests of the Company's stockholders. However, the Governance and Nominating Committee retains the right to modify these qualifications from time to time. Candidates for director nominees are reviewed in the context of the current composition of the Board, the operating requirements of the Company and the long-term interests of stockholders. In conducting this assessment, the Governance and Nominating Committee typically considers diversity (including gender, racial and ethnic diversity), age, skills and such other factors as it deems appropriate, given the current needs of the Board and the Company, to maintain a balance of knowledge, experience and capability.

The Governance and Nominating Committee appreciates the value of thoughtful Board refreshment, and regularly identifies and considers qualities, skills and other director attributes that would enhance the composition of the Board. In the case of incumbent directors whose terms of office are set to expire, the Governance and Nominating Committee reviews these directors' overall service to the Company during their terms, including the number of meetings attended, level of participation, quality of performance and any other relationships and transactions that might impair the directors' independence. The Governance and Nominating Committee also takes into account the results of the Board's self-evaluation, conducted annually on a group and individual basis. In the case of new director candidates, the Governance and Nominating Committee also determines whether the nominee is independent for Nasdaq purposes, which determination is based upon applicable Nasdaq listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. The Governance and Nominating Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. The Governance and Nominating Committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of the Board. The Governance and Nominating Committee meets to discuss and consider the candidates' qualifications and then selects candidates for recommendation to the Board by majority vote.

Our Governance and Nominating Committee does not have a formal policy regarding Board diversity. Diversity is one of a number of factors, however, that the committee takes into account in identifying nominees, and the Governance and Nominating Committee believes that it is essential that the Board members represent diverse viewpoints.

The Governance and Nominating Committee will consider director candidates recommended by stockholders. The Governance and Nominating Committee does not intend to alter the manner in which it evaluates candidates, including the minimum criteria set forth above, based on whether or not the candidate was recommended by a stockholder. Stockholders who wish to recommend individuals for consideration by the Governance and Nominating Committee to become nominees for election to the Board may do so by delivering a written recommendation to the Governance and Nominating Committee at the following address: Palisade Bio, Inc., Attn: Corporate Secretary, 7750 El Camino Suite 2A, Carlsbad, California 92009, no later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting of stockholders. Submissions must include, among other things, the name and address of the Company stockholder on whose behalf the submission is made; the number of Company shares that are owned beneficially by such stockholder as of the date of the submission; the full name of the proposed candidate; a description of the proposed candidate's business experience for at least the previous five years; complete biographical information for the proposed candidate; and a description of the proposed candidate's qualifications as a director. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected.

Strategy and Finance Committee

The Strategy and Finance Committee is composed of three directors: Dr. Gray (Chair), Mr. Neal, and Mr. Finley. The Board has adopted a written Strategy and Finance Committee charter that is available to stockholders on the Company's website at www.palisadebio.com under the section entitled "Governance Documents." The information on our website is not incorporated by reference into this proxy statement or our Annual Report for year ended December 31, 2022

The functions of this committee include, among other things:

- Reviewing with management, the Company's strategy for strategic transactions and financing considerations, including the material details of any proposed strategic transaction.
- Assisting management and the Board with identification of strategic transaction, including overseeing management and the Board's due diligence process with respect to such strategic transactions, and making recommendations to the Board with respect to such transactions.
- Providing guidance to the Board and management regarding capital raising transactions, refinancing, redemptions and other transactions impacting the Company's capital structure.
- Reviewing and approving registered direct overnight offerings of the Company, including underwriting or similar agreements.

The Strategy and Finance Committee met eleven (11) times and acted through unanimous written consent two (2) times during the year ended December 31, 2022.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires the Company's directors and executive officers, and persons who own more than ten percent of a registered class of the Company's equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of the Company. Officers, directors and greater than ten percent shareholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) forms they file.

To the Company's knowledge, based solely on a review of the copies of such reports filed on the SEC's EDGAR system and written representations that no other reports were required, during the fiscal year ended December 31, 2022, all Section 16(a) filing requirements applicable to its officers, directors and greater than ten percent beneficial owners were complied with.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Related Party Transactions Procedures

In 2021, the Company adopted a written Related-Person Transactions Policy that sets forth the Company's policies and procedures regarding the identification, review, consideration and approval or ratification of "related persons transactions." For purposes of the Company's policy only, a "related person transaction" is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which the Company and any "related person" are participants involving an amount that exceeds $120,000. Transactions involving compensation for services provided to the Company as an employee, director, consultant or similar capacity by a related person are not covered by this policy. A related person is any executive officer, director, or more than 5% stockholder of the Company, including any of their immediate family members, and any entity owned or controlled by such persons.

Under the policy, where a transaction has been identified as a related person transaction, management must present information regarding the proposed related person transaction to the Audit Committee (or, where Audit Committee approval would be inappropriate, to another independent body of the Board) for consideration and approval or ratification. The presentation must include a description of, among other things, the material facts, the interests, direct and indirect, of the related persons, the benefits to the Company of the transaction and whether any alternative transactions were available. To identify related person transactions in advance, the Company relies on information supplied by its executive officers, directors and certain significant stockholders. In considering related person transactions, the Committee takes into account the relevant available facts and circumstances including, but not limited to (a) the risks, costs and benefits to the Company, (b) the impact on a director's independence in the event the related person is a director, immediate family member of a director or an entity with which a director is affiliated, (c) the terms of the transaction, (d) the availability of other sources for comparable services or products and (e) the terms available to or from, as the case may be, unrelated third parties or to or from employees generally.

Certain Related Party Transactions

Other than compensation arrangements for our directors and executive officers, which are described above under the heading "Executive Compensation" and "Director Compensation" and except as set forth below, there were no transactions since January 1, 2020 to which we were a party or will be a party, in which:

- the amounts involved exceeded or will exceed the lesser of (a) $120,000 or (b) 1% of the average of our total assets for the fiscal years ended December 31, 2022 or 2021; and

- any of our directors, executive officers or holders of more than 5% of our capital stock, or any member of the immediate family of, or person sharing the household with, the foregoing persons, had or will have a direct or indirect material interest

The proposed or undertaken transactions are:

- In April 2021, Dr. Kenneth Carter, Dr. Matthew Kalnik, and Mr. Dane Saglio, and Seneca's senior vice president of research and development agreed to the cancellation of their respective outstanding options to purchase common stock in Seneca immediately prior to the closing of the Merger in exchange for aggregate consideration of $1,423,012. Dr. Carter, Dr. Kalnik, and Mr. Saglio served as (i) Executive Chairman, (ii) President and Chief Operating Officer, and (iii) Chief Financial Officer of Seneca, respectively, until the closing of the Merger.

- In July 2021, Altium Growth Fund, LP ("Altium"), a then holder of more than five percent of our Common Stock, entered into a Waiver and Amendment Agreement with the Company (the "Waiver Agreement"). Pursuant to the Waiver Agreement, Altium and the Company agreed to waive certain rights, waive the reset provisions with respect to the exercise price and number of shares subject to the outstanding warrants held by Altium, eliminate certain financing restrictions, and accelerate registration rights for the shares underlying the warrants. As consideration for the foregoing, pursuant to the Waiver Agreement, the Company issued Altium an additional warrant to purchase up to 22,000 shares of Common Stock. The Waiver Agreement also provides that the Company will file a resale registration statement for the shares underlying Altium's warrants, including the additional warrant to purchase up to 22,000 shares of Common Stock, before July 31, 2021.

  Effective January 31, 2022 (the "2022 Effective Time"), Altium entered into a Waiver and Amendment Agreement with the Company (the "2022 Waiver Agreement"). Pursuant to the 2022 Waiver Agreement, Altium and the Company agreed to irrevocably waive any adjustment to the exercise price of the existing warrants held by Altium from and after 2022 Effective Time for the Company's issuances of equity or equity-linked securities at a price below the exercise price of the warrants. The 2022 Waiver Agreement also includes agreement by the parties to, among other things, (i) restrict Altium's ability to sell the Company's securities through a "leak out" provision whereby sales are restricted by applying a volume limitation, (ii) shorten the notice period for the Investor's participation rights related to certain future securities offerings, (iii) restrict the Company's ability to conduct a primary offering of its securities for a specified period of time, and (iv) provide registration rights for the shares underlying the January Warrant (defined below). As consideration for the foregoing, pursuant to the 2022 Waiver Agreement, the Company issued Altium an additional warrant to purchase up to 45,000 shares of the Company's common stock (the "January 2022 Warrant"). The January 2022 Warrant is exercisable beginning six months following the 2022 Effective Time.

- In August 2021, we and Yuma Regional Medical Center ("Yuma") entered into a Securities Purchase Agreement pursuant to which Yuma purchased 30,197 shares of our Common Stock and a warrant to purchase up to 7,549 shares of Common Stock for a total purchase price of $5,209,141.20. The Warrant is exercisable for five years. Dr. Trenschel does not have any pecuniary interest in these securities and disclaims beneficial ownership of them.

  Pursuant to the purchase agreement, we agreed to file one or more registration statements with the SEC registering the resale of the shares and the shares of Common Stock issuable upon exercise of the warrant by Yuma, to have all such registration statements declared effective within the timeframes set forth in the purchase agreement, and to keep such registration statements effective for up to five years.

- In October 2020, we issued and sold to Yuma, a holder of more than five percent of our common stock, (i) an unsecured promissory note in the principal amount of $0.5 million with an interest rate of 10% per annum (the "Yuma Notes") and (ii) warrants to purchase 45,000 shares of our Common Stock at an exercise price of $0.73 per share (the "Old Yuma Warrants"). The Old Yuma Warrants were immediately exercisable and expire ten years from the date of issuance. In May 2021, we entered into an agreement with Yuma to amend the Yuma Notes to extend the maturity date of the Yuma Notes to November 15, 2021 (the "Notes Amendment"). In connection with the Notes Amendment, the Old Yuma Warrants were cancelled and we issued new warrants to purchase 100 shares of Common Stock at $300.00 per share to Yuma. Dr. Trenschel is a member of our Board and is the president and chief executive officer of Yuma.

- The Company determined that the outstanding stock options under the LBS 2013 Employee, Director, and Consultant Equity Incentive Plan, (as amended and restated, the "2013 Plan") had an exercise price per share that was significantly higher than the current fair market value of the Company's common stock (the "Underwater Options"). On November 18, 2021, the Compensation Committee resolved that it was in the best interests of the Company and its stockholders to amend the Underwater Options for Dr. Hallam, Mr. Finley and Dr. Dawson, our Chief Executive Officer, Chief Financial Officer and Chief Medical Officer, respectively, to reduce the exercise price per share to $116, the closing per share price of the Company's common stock on November 18, 2021 (the "Repricing"). In accordance with the 2013 Plan requirements, the holders of the Underwater Options identified under the Repricing consented to the modification of their affected awards. All the other terms of the Underwater Options other than the exercise price remained the same, including the number of shares granted, vesting schedule and expiration date. The Company determined that the Repricing represented a modification of share-based awards under ASC 718. Accordingly, the Company recognized incremental compensation expense of $0.4 million for the year ended December 31, 2021. Of the incremental compensation expense recognized, $200,939, $147,197 and $37,574 was attributable to shares held by Dr. Hallam, Mr. Finley and Dr. Dawson, respectively.

- During the fiscal year ended December 31, 2021, the Company paid the following compensation to its non-executive directors that served as directors at any time during such year:

    - An aggregate of $492,102 in cash;
    - An aggregate of $36,960 in stock awards consisting of 24,000 restricted stock units awarded to directors by Seneca Biopharma, Inc., prior to the merger with LBS; and
    - An aggregate of $489,489 in value of stock option grants consisting of 966 options granted to 7 directors during 2021, each having an exercise price of $116 per share and a term of 10 years.

- Pursuant to a registered offering in May 2022, we sold an aggregate of 72,930 shares of our common stock, par value $0.01 per share, at a purchase price per share of $27.50 to certain of the selling stockholders. In a concurrent private placement, we also sold purchase warrants to such purchasers to purchase up to 72,930 shares of common stock at an exercise price of $35.525 per share, the closing bid price of our common stock on May 5, 2022. Altium Growth Fund LP, a holder of greater than 5% of our common stock, purchased 18,000 shares.

  In a concurrent private placement, we also agreed to sell and issue to such purchasers warrants to purchase up to 72,930 shares of common stock at an exercise price of $35.525 per share, the closing bid price of our Common Stock on May 5, 2022. We issued Altium a warrant to purchase 18,000 shares of our Common Stock. The warrants are not exercisable until six months following the date of issuance and expire five and a half years from the date of issuance.

- On August 16, 2022, J.D. Finley, our interim Chief Executive Officer and Chief Financial Officer participated in the Company's underwritten offering. Pursuant to the offering, Mr. Finley invested $25,000 in exchange for 2,000 units at $12.50 per unit consisting of an aggregate of (i) 2,000 Common Shares, (ii) 2,000 Series 1 Common Stock purchase warrants and (iii) 2,000 Series 2 Common Stock purchase warrants. The Series 1 warrants have a term of one year from issuance and the Series 2 warrants have a term of five years from issuance. Both Series 1 and Series 2 warrants initially had exercises prices of $12.50 but have been subsequently reduced to $2.38 per share as a result of adjustments to the exercise prices for future offerings contained in the warrants.

- On August 16, 2022, Thomas Hallam, PhD, our former Chief Executive Officer and former member of our Board, participated in the Company's underwritten offering. Pursuant to the offering, Dr. Hallam invested $10,000 in exchange for 800 units at $12.50 per unit consisting of an aggregate of (i) 800 Common Shares, (ii) 800 Series 1 Common Stock purchase warrants and (iii) 800 Series 2 Common Stock purchase warrants. The Series 1 warrants have a term of one year from issuance and the Series 2 warrants have a term of five years from issuance. Both Series 1 and Series 2 warrants initially had exercises prices of $12.50 but have been subsequently reduced to $2.38 per share as a result of adjustments to the exercise prices for future offerings contained in the warrants.

- On October 11, 2022, the Company entered into a separation agreement with Thomas Hallam, Ph.D., its former chief executive officer and member of its board of directors whereby the Company and Dr. Hallam agreed to a mutual release of claims in exchange for (i) the payment of an aggregate of $530,000 payable in twelve equal monthly installments, (ii) up to twelve (12) months of continued COBRA coverage, (iii) twelve (12) months of immediate vesting of his outstanding equity grants subject to time based vesting, and (iv) up to six (6) months of virtual job replacement services valued at $3,100. Subsequent to entering into the separation agreement, certain facts and conduct by Dr. Hallam were discovered that excused the Company's performance under the settlement agreement. As a result, subsequent to paying Dr. Hallam an aggregate of $22,000, the Company determined that it is not probable that any additional compensation would be due to Dr. Hallam.

- On January 3, 2023, the Company granted J.D. Finley, our interim Chief Executive Officer and Chief Financial Officer, 5,236 restricted stock units valued at $20,000. The restricted stock units vest in 4 equal quarterly installments over the grant year. The restricted stock units were issued from the Company's 2021 Equity Incentive Plan.

- On February 6, 2023, the Company granted J.D. Finley, our interim Chief Executive Officer and Chief Financial Officer: (i) an option to purchase 57,200 shares of common stock valued at approximately $87,853, having an exercise price of $2.40 per share, a term of 10 years, and which vests quarterly over a three year period (ii) 41,700 restricted stock units valued at approximately $100,080 which vests in 12 equal installments quarterly over a three year period, and (iii) 32,500 restricted performance stock units valued at approximately $78,000, which vest (a) 50% when the volume weighted average price of the Company's common stock over 20 consecutive trading days is $3.20, and (b) 50% when such volume weighted average price of the Company's common stock over 20 consecutive trading days is $4.25. All of the grants issued to Mr. Finley were issued on a conditional basis, and are subject to the receipt of shareholder approval of the grants.

- On February 6, 2023, the Company granted Robert McRae, our Chief Operating Officer: (i) an option to purchase 12,000 shares of common stock valued at approximately $18,431, having an exercise price of $2.40 per share, a term of 10 years, and which vests quarterly over three years (ii) 8,800 restricted stock units valued at approximately $21,120 which vests in 12 equal installments quarterly over a three year period, and (iii) 17,900 restricted performance stock units valued at approximately $42,960, which vest (a) 50% when the volume weighted average price of the Company's common stock over 20 consecutive trading days is $3.20, and (b) 50% when such volume weighted average price of the Company's common stock over 20 consecutive trading days is $4.25. All of the grants issued to Mr. Finley were issued on a conditional basis, and are subject to the receipt of shareholder approval of the grants.

- On February 22, 2023, the Compensation Committee amended the Company's non-employee director compensation policy. For a full discussion of this policy, see the section of this Proxy Statement entitled "Director Compensation".

- Pursuant to a registered offering in April 2023, we sold an aggregate of 756,317 shares of our common stock at a purchase price per share of $2.64 to certain institutional and accredited investors. In a concurrent private placement, we also sold (i) 455,242 unregistered shares of common stock, (ii) 1,061,164 prefunded warrants to purchase common stock with a perpetual term and exercise price of $0.0001 per share, and (iii) 2,272,723 common stock purchase warrants with a term of five (5) years and an exercise price of $2.64 per share. Armistice Capital LLC, a holder of greater than 5% of our outstanding Common Stock pursuant to the ownership of outstanding common stock purchase warrants, purchased (i) 378,160 shares in the registered offering and (ii) in the concurrent private placement: (a) 76,140 unregistered shares of common stock, (b) 682,063 prefunded warrants, and (c) 1,136,363 warrants to purchase common stock in exchange for an aggregate of $2,999,930.11.

Indemnification Agreements

We have entered into separate indemnification agreements with each of our directors in addition to the indemnification provided for in our amended and restated certificate of incorporation and amended and restated bylaws. The indemnification agreements, our amended and restated certificate of incorporation and our amended and restated bylaws require us to indemnify its directors, executive officers and certain controlling persons to the fullest extent permitted by Delaware law.

DIRECTOR COMPENSATION

Board Compensation Arrangements

Current Non-employee Director Compensation Policy

Our Compensation Committee amended the Non-employee Director Compensation Policy (the "Current Director Compensation Policy") of the Company on February 22, 2023 that is applicable to each member of our Board who is not also serving as an employee or consultant to the Company. This compensation policy provides that each such non-employee director will receive the following compensation for service on our Board:

Cash Compensation

- an annual cash retainer of $40,000;
- an additional annual cash retainer of $35,000 for service as chairman of the board of directors;
- an additional annual cash retainer of $20,000, $15,000, $10,000 and $20,000 for service as chair of the Audit Committee, Compensation Committee, the Governance and Nominating Committee and the Strategy and Finance Committee, respectively; and
- an additional annual cash retainer of $10,000, $7,500, $5,000 and $10,000 for service as a member of the Audit Committee, Compensation Committee, the Governance and Nominating Committee and the Strategy and Finance Committee, respectively (not applicable to committee chairs).

Equity Compensation

- *Initial Grants For New Eligible Directors* – (i) 13,700 common stock options and (ii) 10,000 restricted stock units, that each vest in equal monthly installments over a three (3) year period; and
- *Annual Grants For Eligible Directors* – (i) 7,000 common stock options and (ii) 5,100 restricted stock units, each subject to the following terms:
  - One (1) year cliff vesting; and
  - Grant date three (3) days after the Company's annual meeting of shareholders based on closing price of Company.

We have reimbursed and will continue to reimburse all of our non-employee directors for their reasonable out-of-pocket expenses incurred in attending Board and committee meetings. Dr. Hallam, our prior Chief Executive Officer, also served as director during 2022, but did not receive any additional compensation for his service as a director during his tenure. J.D. Finley was appointed to the Board on February 2, 2023, but will not participate in any of the foregoing director compensation given his service as an executive officer of the Company.

Legacy Non-employee Director Compensation Policy

Our Board adopted a Non-employee Director Compensation Policy in November 2021 that was applicable to each member of our Board who was not an employee or consultant to the Company. The policy was substantially the same as the Current Director Compensation Policy described above, except that the equity compensation component of the legacy policy was determined on an ad hoc basis at the discretion of the Board or Compensation Committee.

Compensation During 2022

The following table sets forth in summary form information concerning the compensation that was earned by each of our non-employee directors during the year ended December 31, 2022.

NAME	FEES EARNED OR PAID IN CASH	STOCK AWARDS($)	OPTION AWARDS ($)	TOTAL ($)
James R. Neal	$ 115,000	—	—	$ 115,000
Stephanie C. Diaz	$ 80,000	—	—	$ 80,000
Donald A. Williams	$ 60,000	—	—	$ 60,000
Mary Ann Gray, Ph.D.	$ 65,000	—	—	$ 65,000
Cristina Csimma, PharmD, MHP	$ 57,500	—	—	$ 57,500
Robert Trenchel, D.O.	$ 57,500	—	—	$ 57,500
Binxian Wei	$ 40,000	—	—	$ 40,000

EXECUTIVE COMPENSATION

Our named executive officers for the year ended December 31, 2022, consisting of our current principal executive officer and financial officer, our the next two most highly compensated executive officers as of December 31, 2022, and two additional individuals for whom disclosure would have been required to be provided under applicable SEC rules but for the fact that the individuals were not serving as an executive officer at December 31, 2022, were:

- Thomas Hallam, Ph.D., our former Chief Executive Officer;
- J.D. Finley, our current interim Chief Executive Officer and Chief Financial Officer;
- Herbert Slade, MD FAAAAI, our current Chief Medical Officer;
- Michael Dawson, M.D., our former Chief Medical Officer; and
- Robert McRae, our current Chief Operating Officer.

The following table presents all of the compensation awarded to or earned by or paid to our named executive officers during the fiscal years ended December 31, 2022 and 2021.

Summary Compensation Table

Name and Principal Position		Year	Salary ($)	Bonus ($)	Option Awards [2] ($)	Non-Equity Incentive Plan Compensation [7] ($)	All Other Compensation ($)	Total ($)
Thomas Hallam, Ph.D.		2022	415,167	—	96,572[4]	—	22,083	533,822
Former Chief Executive Officer	[8]	2021	453,617	30,000[1]	750,474[3]	159,000	1,776	1,394,867
J.D. Finley		2022	440,500		39,961[5]	133,100	—	613,561
Chief Executive Officer and Chief Financial Officer	[9]	2021	365,389	50,000[1]	593,316[3]	104,000	—	1,112,705
Herbert Slade, MD, FAAAAI		2022	—	—[1]	—	—	59,063	59,063
Chief Medical Officer	[10]	2021	—	—	—	—	—	—
Michael Dawson		2022	94,501	—	19,981[6]	—	74,698	189,180
Former Chief Medical Officer	[11]	2021	111,747	—	96,049[3]	27,800	—	235,596
Robert McRae	[12]	2022	350,000	—	61,067[14]	89,420		500,487
Chief Operating Officer	[13]	2021	12,153	50,000	—	—	—	62,153

(1) Amounts reported represent bonuses earned in 2020 and paid in 2021 related to the voluntary deferral of salary in 2020 and bonuses earned in 2021 and paid in 2021 related to the closing of the merger transaction with Seneca Biopharma. These bonuses were paid at the discretion of our Board.

(2) In accordance with SEC rules, reflects the aggregate grant date fair value of stock options granted to our named executive officers during fiscal years ended December 31, 2021 and 2022 under the 2013 Plan and the 2021 EIP, as determined in accordance with the provisions of FASB ASC Topic 718. The valuation assumptions used in calculating their fair value of the stock options are included in Note 9 to our audited consolidated financial statements included in the Company's Annual Report on Form 10-K filed with the SEC on March 17, 2022 with respect to grants in 2021 and contained in Note 8 of our condensed consolidated financial statements included in the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2022. These amounts do not reflect the actual economic value that may be realized by the named executive officer upon the vesting of the stock options, the exercise of the stock options, or the sale of the common stock underlying such stock options.

(3) Amounts include the incremental fair value of the repricing of: (i) options with respect to 236,324 shares underlying vested options granted to Dr. Hallam, (ii) 157,246 shares underlying vested options granted to Mr. Finley, and (iii) 34,115 shares underlying vested options granted to Dr. Dawson, computed in each case as of the repricing or modification date in accordance with FASB ASC Topic 718.
(4) Amount includes an option grant to purchase 1,296 shares under the 2021 Equity Incentive Plan. The options were issued on February 17, 2022 and have an exercise price of $47.71 per share.
(5) Amount includes an option grant to purchase 3,132 shares under the 2021 Equity Incentive Plan. The options were issued on February 17, 2022 and have an exercise price of $47.71 per share.
(6) Amount includes an option grant to purchase 648 shares under the 2021 Equity Incentive Plan. The options were issued on February 17, 2022 and have an exercise price of $47.71 per share.
(7) Amounts reflect non-equity discretionary cash incentive plan bonuses paid.
(8) Dr. Hallam ceased to serve as our Chief Executive Officer and as a member of the Board of Directors effective October 11, 2022.
(9) In addition to serving as our Chief Financial Officer, Mr. Finley began serving as interim Chief Executive Officer on October 11, 2022. The Board and Compensation Committee have not yet determined any base salary increase for Mr. Finley's new role, if any, at this time, nor whether any such base salary increase will be applied retroactively.
(10) Dr. Slade was appointed to serve as our Chief Medical Officer on November 17, 2022. Dr. Slade's compensation consists of: (i) $31,063 paid to Dr. Slade as a consultant prior to becoming Chief Medical Officer and (ii) $28,000 paid to Dr. Slade as our chief medical officer consultant.
(11) Dr. Dawson ceased to serve as our Chief Medical Officer effective October 11, 2022.
(12) On February 2, 2023, Mr. McRae was appointed to Chief Operating Officer.
(13) Mr. McRae was awarded a bonus of $50,000 in connection with his employment, which commenced on December 20, 2021.
(14) Amount includes an option grant to purchase 1,800 shares under the 2021 Equity Incentive Plan. The options were issued on February 9, 2022 and have an exercise price of $52.50 per share.

Compensation Program Overview

Our compensation program for executive officers is designed to encourage our management team to continually achieve our short-term and long-term corporate objectives while effectively managing business risks and challenges. We provide what we believe is a competitive total compensation package to our management team through a combination of base salary, an annual performance-based bonus and long-term equity-based incentives.

The Compensation Committee shall review, determine and approve (or, if it deems appropriate, recommend to the Board for determination and approval, except as provided below), at their discretion, in light of relevant performance goals and objectives, taking into account such other items as the Compensation Committee deems relevant.

Annual Base Salary

The compensation of our named executive officers for 2022 base salaries that became effective as of January 1, 2022 were as follows:

NAME	2022 BASE SALARY ($)
Thomas Hallam, Ph.D.	$ 530,000(1)
J.D. Finley	$ 424,000(2)
Michael Dawson, M.D.	$ 240,000(3)

(1) Dr. Hallam ceased to be an employee of the Company effective October 11, 2022.
(2) Mr. Finley began serving as interim CEO in addition to his role as CFO effective October 11, 2022. Mr. Finley's base salary was increased to $490,000 effective October 1, 2022 by the Board on February 2, 2023.
(3) Dr. Dawson ceased to be an employee of the Company effective October 11, 2022.

Bonus Opportunity

Named executive officers are eligible to be considered for an annual discretionary cash incentive bonus of up to a percentage of their respective base salary, based on achievement of individual and/or corporate performance targets, metrics and/or objectives to be determined and approved by the Board or the Compensation Committee, including pursuant to an annual incentive plan or similar plan adopted by the Board, if any. Any such bonus would be paid after the close of the fiscal year and after determination by the Board or the Compensation Committee. All annual incentive compensation is discretionary and not guaranteed and, in addition to the other conditions for earning such compensation, each officer must remain an employee in good standing of the Company on the annual incentive compensation payment date in order to be eligible for any annual incentive compensation. The Board (or the Compensation Committee thereof) may review executive officer's annual performance bonus amount for adjustment from time to time. The 2022 annual discretionary cash incentive bonus targets were 50% of base salary for Dr. Hallam (prior to his termination), 40% of base salary for Mr. Finley, which was increased to 45% effective October 1, 2022, and 40% of base salary for Dr. Dawson (prior to his termination).

In 2022, the annual cash incentive bonus paid to Mr. Finley and Mr. McRae were calculated based on achievement of 73% of the corporate performance targets for the year multiplied by their respective bonus target percentages at the time. The corporate performance targets related to clinical development, capital raising, and corporate governance performance during 2022.

Option Repricing

The Company determined that the outstanding stock options under the LBS 2013 Amended and Restated Employee, Director, and Consultant Equity Incentive Plan, (as amended and restated, the "2013 Plan") had an exercise price per share that was significantly higher than the current fair market value of the Company's common stock (the "Underwater Options"). In November 2021, the Compensation Committee resolved that it was in the best interests of the Company and its stockholders to amend the Underwater Options for five key employees, including Dr. Hallam, Mr. Finley, and Dr. Dawson, to reduce the exercise price per share to the closing per share price of the Company's common stock on November 18, 2021 (the "Repricing"). In accordance with the 2013 Plan requirements, the holders of the Underwater Options identified under the Repricing consented to the modification of their affected awards. All the other terms of the Underwater Options other than the exercise price remained the same, including the number of shares granted, vesting schedule and expiration date.

No options were repriced during the year ended December 31, 2022.

Equity Compensation Plans

As of December 31, 2022, we currently have the following equity compensation plans: (i) the Company's 2021 Equity Incentive Plan, as amended (the "2021 EIP"), (ii) the Company's 2021 Employee Stock Purchase Plan (the "ESPP"), (ii) 2013 Plan, which was assumed by the Company in connection with the merger with Seneca BioPharma, (iii) the Company 2021 Inducement Plan (the "Palisade 2021 Inducement Plan"), (iv) Seneca's 2019 Equity Incentive Plan (the "Seneca 2019 Plan"), (v) Seneca's 2020 Equity Incentive Plan (the "Seneca 2020 Plan") and (vi) Seneca's Inducement Award Stock Option Plan (the "Seneca Inducement Plan"). As a result of the approval of the Company's 2021 Equity Incentive Plan, no future awards may be granted under the 2013 Plan. No future awards may be granted under the 2013 Plan, Seneca 2019 Plan, the Seneca 2020 Plan, or the Seneca Inducement Plan. There are no securities outstanding under the ESPP plan.

FOR ADDITIONAL INFORMATION, PLEASE SEE BELOW UNDER "OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END."

Say-on-Pay

At our 2022 Annual Meeting of Stockholders held on June 9, 2022, we submitted an advisory vote on the compensation awarded to our named executive officers (commonly known as a "say-on-pay" vote). At our 2022 Annual Meeting, excluding broker non-votes, approximately 5,753,960 shares cast votes with regard to the say-on-pay proposal. Of those, 3,765,654 or approximately 65.44%, of the shares approved the compensation of named executive officers. We believe that the outcome of our say-on-pay vote signals our stockholders' support of our compensation approach, specifically our efforts to retain and motivate our named executive officers. In light of this stockholder support, the Compensation Committee determined not to change its approach to compensation. However, even though stockholders demonstrated overwhelming support for our compensation approach in 2022, the Compensation Committee annually reviews our compensation practices to determine how they might be improved. The Compensation Committee will continue to consider the outcome of say-on-pay votes when making future compensation decisions for our named executive officers.

Agreements with Our Named Executive Officers

We are party to (i) an employment with Mr. Finley, our interim Chief Executive Officer and Chief Financial Officer and (ii) a consulting agreement with Dr. Slade, our Chief Medical Officer.

Previously, we were a party to (i) an employment agreement entered into with Dr. Hallam in December 2020 (entered into by LBS) and (ii) an employment agreement entered into with Dr. Dawson in December 2020 (entered into by LBS). Employment for both Dr. Hallam and Dr. Dawson terminated on October 11, 2022.

Descriptions of each of the foregoing employment or consulting agreement(s) are described below.

Finley Employment Agreement

Mr. Finley served as our Chief Financial Officer pursuant to his employment agreement dated December 16, 2022 ("Finley Employment Agreement"). Additionally, effective October 11, 2022, Mr. Finley was appointed to serve as our interim Chief Executive Officer. Pursuant to the Finley Employment Agreement, Mr. Finley receives an annual base salary of $400,000, with an annual target cash bonus of 40% of his base salary. Mr. Finley also received a one-time payment of $231,000, consisting of (i) $39,500 for the 2019 performance bonus, which had been voluntarily deferred (ii) $127,969 for the amount of 2020 salary that had been voluntarily deferred, (iii) a bonus equal to 10% of the 2020 salary that had been voluntarily deferred and (iv) a bonus of $50,000 awarded for the successful close of the merger with Seneca. In February 2022, Mr. Finley's base salary was increased to $424,000 per annum. Effective 1, 2022, Mr. Finley's salary was increased to $490,000 pursuant to his appointment as interim Chief Executive Officer. The Company anticipates entering into an amendment to the Finley Employment Agreement to reflect the increase in base salary.

The Finley Employment Agreement also provided that if the Company terminated Mr. Finley without "Cause" or if Mr. Finley resigned his employment for "Good Reason", each as defined in the Finley Employment Agreement, Mr. Finley would be entitled to receive (i) salary continuation and COBRA reimbursement for twelve (12) months each, up to three (3) months of outplacement assistance, and (iii) 9 months of immediate vesting of equity grants subject to time based vesting. In the case of a termination that occurred during the period beginning three (3) months before and ending twelve (12) months after a "Change in Control", (a) these severance-related periods would also be (12) months, (b) the equity award acceleration will result in full vesting for all time-based awards, and (c) Mr. Finley would receive an additional payment equal to his target bonus.

Upon Mr. Finley's termination for any reason, Mr. Finley will be entitled to receive amounts earned but unpaid during his term of service, including unpaid salary and unused vacation, as applicable.

Mr. Finley received certain stock option grants under the 2013 Plan and the 2021 EIP that were granted subject to the general terms of the 2013 Plan or 2021 EIP, as applicable, and the relevant form of stock option agreement. The specific terms of such grants are described under the heading "Outstanding Equity Awards at Fiscal Year-End."

Slade Consulting Agreement

Effective November 17, 2022, we appointed Dr. Slade as our Chief Medical Officer. Dr. Slade serves in this role on a consulting basis and receives compensation based on his hours of service. Dr. Slade has previously been providing consulting services to the Company since May 2022. Dr. Slade's consulting agreement does not provide for any severance or termination-based benefits upon termination or resignation.

McRae Employment

Effective February 2, 2022, Robert McRae was appointed Chief Operating Officer of the Company. Pursuant to Mr. McRae's appointment, the Board agreed to pay Mr. McRae a base salary of $400,000 per annum and set his target bonus at 40% of his base salary. The Company has not yet entered into a formal employment agreement with Mr. McRae.

Hallam Employment Agreement

Dr. Hallam served as our Chief Executive Officer pursuant to his employment agreement dated December 16, 2022 ("Hallam Employment Agreement") until October 11, 2022. Pursuant to the Hallam Employment Agreement, Dr. Hallam received an annual base salary of $490,000, with an annual target cash bonus of 50% of his base salary. Dr. Hallam also received a one-time payment of $285,000, consisting of (i) $73,500 for the 2019 performance bonus, which had been voluntarily deferred (ii) $164,937 for the amount of 2020 salary that had been voluntarily deferred, (iii) a bonus equal to 10% of the 2020 salary that had been voluntarily deferred and (iv) a discretionary bonus of $30,000 awarded for the successful close of the merger with Seneca. In February 2022, Dr. Hallam's base salary was increased to $530,000 per annum.

Hallam Termination / Change in Control Payments

The Hallam Employment Agreement also provided that if the Company terminated Dr. Hallam without "Cause" or if Dr. Hallam resigned his employment for "Good Reason", each as defined in the Hallam Employment Agreement, Dr. Hallam would be entitled to receive (i) salary continuation and COBRA reimbursement for twelve (12) months each, up to three (3) months of outplacement assistance, and (iii) 12 months of immediate vesting of equity grants subject to time based vesting. In the case of a termination that occurred during the period beginning three (3) months before and ending twelve (12) months after a "Change in Control", (a) these severance-related periods would have increased to eighteen (18) months, (b) the equity award acceleration will result in full vesting for all time-based awards, and (c) Dr. Hallam would receive an additional payment equal to his target bonus.

Upon Dr. Hallam's termination, Dr. Hallam received amounts earned but unpaid during his term of service, including unpaid salary and unused vacation, as applicable.

Pursuant to his service, Dr. Hallam received certain stock option grants under the 2013 Plan and the 2021 EIP that were granted subject to the general terms of the 2013 Plan or 2021 EIP, as applicable, and the relevant form of stock option agreement. The specific terms of such grants are described under the heading "Outstanding Equity Awards at Fiscal Year-End."

Termination of Employment of Dr. Hallam

On October 11, 2022, the Company entered into a separation agreement with Thomas Hallam, Ph.D., its former chief executive officer and member of its board of directors whereby the Company and Dr. Hallam agreed to a mutual release of claims in exchange for (i) the payment of an aggregate of $530,000 payable in twelve equal monthly installments, (ii) up to twelve (12) months of continued COBRA coverage, (iii) twelve (12) months of immediate vesting of his outstanding equity grants subject to time based vesting, and (iv) up to six (6) months of virtual job replacement services valued at $3,100. Subsequent to entering into the separation agreement, certain facts and conduct by Dr. Hallam were discovered that excused the Company's performance under the settlement agreement. As a result, subsequent to paying Dr. Hallam an aggregate of $22,000, the Company determined that it is not probable that any additional compensation would be due to Dr. Hallam.

Dawson Employment Agreement

Dr. Dawson served as our Chief Medical Officer pursuant to his employment agreement dated December 16, 2020 ("Dawson Employment Agreement") until October 11, 2022. Pursuant to the Dawson Employment Agreement, Dr. Dawson received an annual base salary of $115,900, with an annual target cash bonus of 40% of his base salary. Dr. Dawson also received a one-time payment of $66,000, consisting of (i) $7,500 for the 2019 performance bonus, which had been voluntarily deferred (ii) $52,515 for the amount of 2020 salary that had been voluntarily deferred, and (iii) a bonus equal to 10% of the 2020 salary that had been voluntarily deferred. In February 2022, Dr. Dawson's base salary was increased to $240,000 per annum.

Dawson Termination / Change in Control Payments

The Dawson Employment Agreement also provided that if the Company terminated Dr. Dawson without "Cause" or if Dr. Dawson resigned his employment for "Good Reason", each as defined in the Dawson Employment Agreement, Dr. Dawson would be entitled to receive (i) salary continuation and COBRA reimbursement for nine (9) months each, (ii) up to three (3) months of outplacement assistance, and (iii) nine (9) months of immediate vesting of equity grants subject to time based vesting. In the case of a termination that occurred during the period beginning three (3) months before and ending twelve (12) months after a "Change in Control", (a) these severance-related periods would have increased to nine (9) months, (b) the equity award acceleration will result in full vesting for all time-based awards, and (c) Dr. Dawson would receive an additional payment equal to his target bonus.

Upon a termination of service for any reason, Dr. Dawson would be entitled to receive amounts earned during his term of service, including unpaid salary and unused vacation, as applicable.

As a result of his termination from the Company, all of Dr. Dawson's option grants have expired as of the date of this Registration Statement.

Perquisites, Health, Welfare and Retirement Benefits

All of our current named executive officers are eligible to participate in our employee benefit plans, including our medical, dental, vision, life, disability and accidental death and dismemberment insurance plans, in each case on the same basis as all of our other employees. We pay the premiums for the life, disability, accidental death and dismemberment insurance for all of our employees, including our named executive officers. Current named executive officers are eligible to participate in our defined contribution 401(k) plan, on the same basis as all of our other employees, under which they may make voluntary contributions as a percentage of compensation. No matching contributions have been made since the adoption of the 401(k) plan.

Pay versus Performance

The Compensation Committee approves and administers our executive compensation program, which it designs to attract, incentivize, reward, and retain our executive officers. Our program aligns executive pay with stockholder interests and links pay to performance through a blend of short-term and long-term performance measures.

As required by Item 402(v) of Regulation S-K, we are providing the following information about the relationship between the compensation actually paid to our named executive officers and certain aspects of our financial performance.

Pay-Versus-Performance Table

Pay Versus Performance

Year (a)	Summary Compensation Table Total for First PEO[1] (b)	Compensation Actually Paid for First PEO[2] (c)	Summary Compensation Table Total for Second PEO[1] (b)	Compensation Actually Paid for Second PEO[2] (c)	Average Summary Compensation Table Total for Non-PEO NEOs[3] (d)	Average Compensation Actually Paid for Non-PEO NEOs[4] (e)	Value of Initial Fixed $100 Investment Total Shareholder Return[5] (f)	Net Income or Loss[6] (h)
2022	$ 533,822	$ 269,883	$ 613,561	$ 460,933	$ 249,577	$ 216,433	$ 1	$-14,260,000
2021	$ 1,394,867	$ 818,657	N/A	N/A	$ 674,151	$ 426,418	$ 13	$-26,616,000

1 The dollar amounts reported in columns (b) represent the amounts of total compensation reported for Thomas Hallam, Ph.D. (our "First PEO"), and J.D. Finley (our "Second PEO"), who was appointed to interim CEO in 2022, for each covered fiscal year in the "Total" column of the Summary Compensation Table for each applicable year. Please refer to "Executive Compensation – Summary Compensation Table."

2 The dollar amounts reported in columns (c) represent the amounts of "compensation actually paid" to Thomas Hallam, Ph.D., and J.D. Finley, as computed in accordance with Item 402(v) of Regulation S-K for each covered fiscal year. The dollar amounts do not reflect the actual amounts of compensation earned or received by or paid to these two individuals during the applicable fiscal year. In accordance with the requirements of Item 402(v) of Regulation S-K, the following adjustments were made to these two individual's total compensation for each covered fiscal year to determine the "compensation actually paid" to them for such fiscal year:

First PEO - Thomas Hallam, Ph.D.

			2021	2022
	Summary Compensation Table - Total Compensation	(a)	$ 1,394,867	$ 533,822
-	Grant Date Fair Value of Stock Awards and Option Awards Granted in Fiscal Year	(b)	$ 750,474	$ 96,572
+	Fair Value at Fiscal Year End of Outstanding and Unvested Stock Awards and Option Awards Granted in Fiscal Year	(c)	$ 181,635	$ 0
+	Change in Fair Value of Outstanding and Unvested Stock Awards and Option Awards Granted in Prior Fiscal Years	(d)	$ -87,188	$ 0
+	Fair Value at Vesting of Stock Awards and Option Awards Granted in Fiscal Year That Vested During Fiscal Year	(e)	$ 159,235	$ 4,502
+	Change in Fair Value as of Vesting Date of Stock Awards and Option Awards Granted in Prior Fiscal Years For Which Applicable Vesting Conditions Were Satisfied During Fiscal Year	(f)	$ -79,418	$ -91,637
-	Fair Value as of Prior Fiscal Year End of Stock Awards and Option Awards Granted in Prior Fiscal Years That Failed to Meet Applicable Vesting Conditions During Fiscal Year	(g)	$ 0	$ 80,233
=	Compensation Actually Paid		$ 818,657	$ 269,883

Second PEO - J.D. Finley

			2021	2022
	Summary Compensation Table - Total Compensation	(a)		$ 613,561
-	Grant Date Fair Value of Stock Awards and Option Awards Granted in Fiscal Year	(b)		$ 39,961
+	Fair Value at Fiscal Year End of Outstanding and Unvested Stock Awards and Option Awards Granted in Fiscal Year	(c)		$ 1,032
+	Change in Fair Value of Outstanding and Unvested Stock Awards and Option Awards Granted in Prior Fiscal Years	(d)		$ -91,952
+	Fair Value at Vesting of Stock Awards and Option Awards Granted in Fiscal Year That Vested During Fiscal Year	(e)		$ 1,611
+	Change in Fair Value as of Vesting Date of Stock Awards and Option Awards Granted in Prior Fiscal Years For Which Applicable Vesting Conditions Were Satisfied During Fiscal Year	(f)		$ -23,359
-	Fair Value as of Prior Fiscal Year End of Stock Awards and Option Awards Granted in Prior Fiscal Years That Failed to Meet Applicable Vesting Conditions During Fiscal Year	(g)		$ 0
=	Compensation Actually Paid			$ 460,933

(a) The reported total compensation reflects the "Total" compensation as reported in the Summary Compensation Table for each covered fiscal year.
(b) The reported grant date fair value of equity awards represents the total of the amounts reported in the "Stock Awards" and "Option Awards" columns in the Summary Compensation Table for each covered fiscal year. These equity award values are adjusted for each covered fiscal year by the addition (or subtraction, as applicable) as described in footnotes (c), (d), (e), (f), and (g).
(c) The year-end fair value of all equity awards granted in the covered fiscal year that are outstanding and unvested as of the end of the covered fiscal year;
(d) The amount equal to the change as of the end of the covered fiscal year (from the end of the prior fiscal year) in fair value of any equity awards granted in any prior fiscal year that are outstanding and unvested as of the end of the covered fiscal year;
(e) For equity awards that are granted and vest in same covered fiscal year, the fair value as of the vesting date;
(f) For equity awards granted in any prior fiscal year for which all applicable vesting conditions were satisfied at the end of or during the covered fiscal year, the amount equal to the change as of the vesting date (from the end of the prior fiscal year) in fair value;
(g) For equity awards that are granted in any prior fiscal year that fail to meet the applicable vesting conditions during the covered fiscal year, the amount equal to the fair value at the end of the prior fiscal year, and;
(h) The amounts deducted or added in calculating the equity award adjustments are as follows:

Equity Award Valuations: Stock option grant date fair values are calculated based on the Black-Scholes option pricing model as of date of grant. The valuation assumptions used to calculate the fair values of the stock options held by these two individuals that vested during or were outstanding as of the end of each covered fiscal year materially differed from those valuation assumptions disclosed at the time of grant in the following respects: the expected term assumptions varied from 3.61 years to 6.38 years, the stock price volatility assumptions varied from 71.5% to 80% and the risk-free interest rate assumption varied from 0.5% to 4.2%, depending on the specific stock option the fair value of which was being recalculated.

[3] The dollar amounts reported in column (d) represent the average of the amounts of total compensation reported for our NEOs as a group, for each covered fiscal year in the "Total" column of the Summary Compensation Table for each applicable year. These amounts exclude Thomas Hallam, Ph.D. who served as CEO in 2022 and 2021, and J.D. Finley in 2022 due to his appointment as interim CEO in 2022 (J.D. Finley's 2021 compensation is included in 2021 as he served as our CFO for the entire year). The names of each NEO included for purposes of calculating the average amounts of total compensation in each covered fiscal year are as follows:

- for 2022, the average "compensation actually paid" comprised the compensation of H. Slade, M.D., FAAAI, M. Dawson, and R. McRae;
- for 2021, the average "compensation actually paid" comprised the compensation of J.D. Finley, and M. Dawson.

[4] The dollar amounts reported in column (e) represent the average amount of "executive compensation actually paid" to our NEOs as a group (as defined above), as computed in accordance with Item 402(v) of Regulation S-K for each covered fiscal year. The dollar amounts do not reflect the actual average amount of compensation earned or received by or paid to our NEOs as a group (as defined above) during the applicable fiscal year. In accordance with the requirements of Item 402(v) of Regulation S-K, the following adjustments were made to the average total compensation for each fiscal year to determine the "compensation actually paid" for such fiscal year, using the same methodology described above in Note 4(b) below:

NEO Average

			2021	2022
	Summary Compensation Table - Total Compensation	(a)	$ 674,151	$ 249,577
-	Grant Date Fair Value of Stock Awards and Option Awards Granted in Fiscal Year	(b)	$ 344,683	$ 27,016
+	Fair Value at Fiscal Year End of Outstanding and Unvested Stock Awards and Option Awards Granted in Fiscal Year	(c)	$ 74,485	$ 391
+	Change in Fair Value of Outstanding and Unvested Stock Awards and Option Awards Granted in Prior Fiscal Years	(d)	$ -38,434	$ 0
+	Fair Value at Vesting of Stock Awards and Option Awards Granted in Fiscal Year That Vested During Fiscal Year	(e)	$ 95,600	$ 2,021
+	Change in Fair Value as of Vesting Date of Stock Awards and Option Awards Granted in Prior Fiscal Years For Which Applicable Vesting Conditions Were Satisfied During Fiscal Year	(f)	$ -34,701	$ -1,598
-	Fair Value as of Prior Fiscal Year End of Stock Awards and Option Awards Granted in Prior Fiscal Years That Failed to Meet Applicable Vesting Conditions During Fiscal Year	(g)	$ 0	$ 6,941
=	Compensation Actually Paid		$ 426,418	$ 216,433

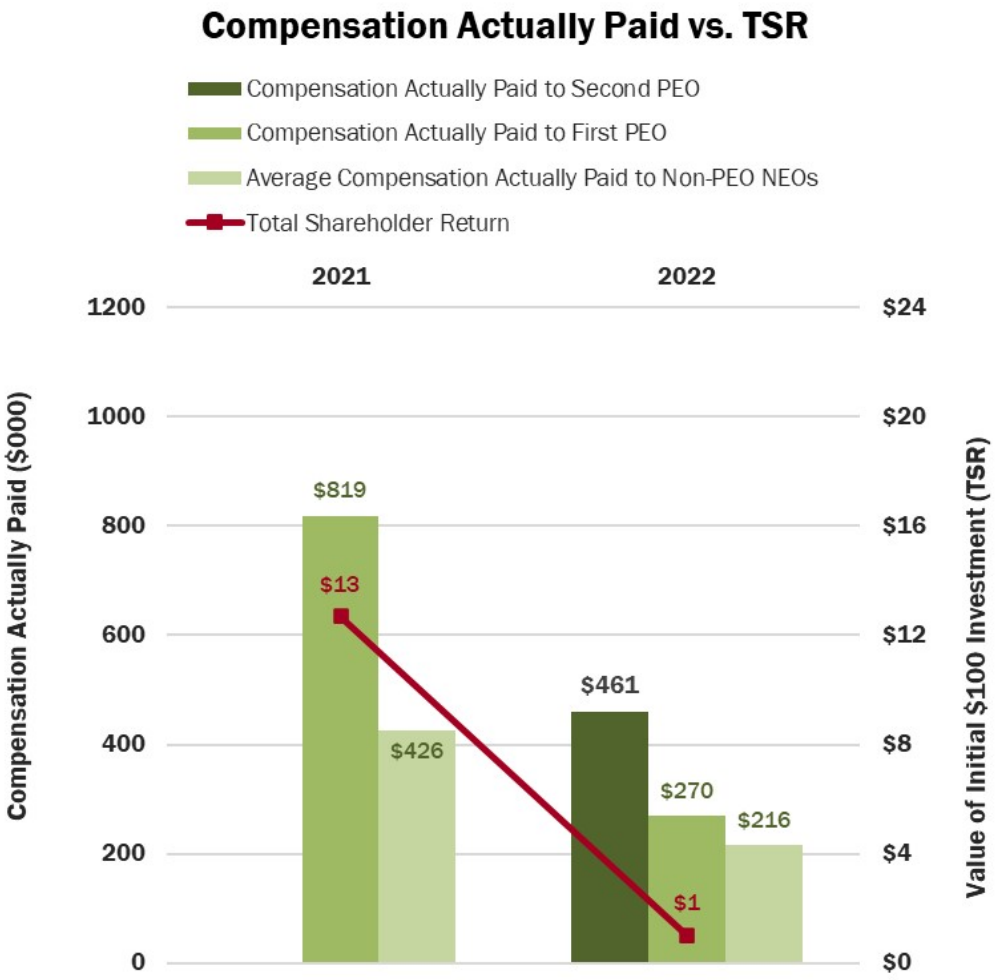
(a) The reported total compensation reflects the "Total" compensation as reported in the Summary Compensation Table for each covered fiscal year.
(b) The reported grant date fair value of equity awards represents the total of the amounts reported in the "Stock Awards" and "Option Awards" columns in the Summary Compensation Table for each covered fiscal year. These equity award values are adjusted for each covered fiscal year by the addition (or subtraction, as applicable) as described in footnotes (c), (d), (e), (f), and (g).
(c) The year-end fair value of all equity awards granted in the covered fiscal year that are outstanding and unvested as of the end of the covered fiscal year;
(d) The amount equal to the change as of the end of the covered fiscal year (from the end of the prior fiscal year) in fair value of any equity awards granted in any prior fiscal year that are outstanding and unvested as of the end of the covered fiscal year;
(e) For equity awards that are granted and vest in same covered fiscal year, the fair value as of the vesting date;
(f) For equity awards granted in any prior fiscal year for which all applicable vesting conditions were satisfied at the end of or during the covered fiscal year, the amount equal to the change as of the vesting date (from the end of the prior fiscal year) in fair value;
(g) For equity awards that are granted in any prior fiscal year that fail to meet the applicable vesting conditions during the covered fiscal year, the amount equal to the fair value at the end of the prior fiscal year, and;
(h) The amounts deducted or added in calculating the equity award adjustments are as follows:

[5] Cumulative total stockholder return ("TSR") is calculated by dividing the sum of the cumulative amount of dividends during the measurement period, assuming dividend reinvestment, and the difference between our share price at the end of the applicable measurement period and the beginning of the measurement period (December 31, 2020) by our share price at the beginning of the measurement period.

[6] The dollar amounts reported represent the amount of net income (loss) reflected in our audited financial statements for each covered fiscal year.

Compensation Actually Paid and Company TSR

The following graph presents the alignment between the amount of compensation actually paid to our principal executive officer or PEO, and the average amount of compensation actually paid to our other NEOs as a group (except Thomas Hallam, Ph.D., and J.D. Finley in 2022) with our TSR over the period presented in the Pay-Versus-Performance Table.



Compensation Actually Paid and Net Income

The following graph presents the alignment between the amount of compensation actually paid to J.D. Finley, and the average amount of compensation actually paid to our other NEOs as a group (except Thomas Hallam, Ph.D., and J.D. Finley in 2022) with our Net Income over the period presented in the Pay-Versus-Performance Table.

Outstanding Equity Awards at Fiscal Year-End

	Option Awards[1]				
Name	**Grant Date**	**Number of Securities Underlying Unexercised Options Exercisable**	**Number of Securities Underlying Unexercised Options Unexercisable [2]**	**Option Exercise Price Per Share [3]**	**Option Expiration Date**
Thomas Hallam[4]	2/17/2022	1,305	—	$ 47.71	1/11/2023[5]
	11/18/2021	2,708	—	$ 116.00	1/11/2023[5]
	4/27/2021[6]	543	—	$ 116.00	1/11/2023[5]
	3/18/2020[6]	245	—	$ 116.00	1/11/2023[5]
	3/22/2019[6]	543	—	$ 116.00	1/11/2023[5]
	3/22/2019[6]	174	—	$ 116.00	1/11/2023[5]
	3/22/2019[6]	300	—	$ 116.00	1/11/2023[5]

	3/22/2019[6]	407	—	$	116.00	1/11/2023[5]
	11/10/2017[6]	54	—	$	116.00	1/11/2023[5]
	11/10/2017[6]	1910	—	$	116.00	1/11/2023[5]
	6/12/2015[6]	134	—	$	116.00	1/11/2023[5]
	6/12/2015[6]	9	—	$	116.00	1/11/2023[5]
	5/16/2014[6]	543	—	$	116.00	1/11/2023[5]
J.D. Finley	2/17/2022	324	972	$	47.71	2/17/2032
	11/18/2021	919	2,642	$	116.00	11/18/2031
	4/27/2021[6]	652	—	$	116.00	4/27/2031
	2/19/2020[6]	146	12	$	116.00	2/19/2030
	3/22/2019[6]	293	—	$	116.00	3/22/2029
	3/22/2019[6]	380	—	$	116.00	3/22/2029
	3/22/2019[6]	194	—	$	116.00	3/22/2029
	3/22/2019[6]	113	—	$	116.00	3/22/2029
	11/10/2017[6]	1,041	—	$	116.00	11/10/2027
	12/9/2016[6]	190	—	$	116.00	12/13/2024
	6/12/2015[6]	208	—	$	116.00	6/12/2025
Robert McRae	2/9/2022	600	1,200	$	52.50	2/9/2023

(1) Option awards were granted under the 2013 Plan and the 2021 EIP.
(2) Options vest in equal proportions each quarter over three years, generally from the date of grant, except those options specifically granted on April 27, 2021, which vest quarterly over one year.

(3) All of the option awards granted under the 2013 Plan were granted with a per share exercise price equal to fair market value of one share of LBS common stock on the date of grant, as determined in good faith by the Board. All of the option awards granted under the 2021 EIP were granted with a per share exercise price equal to the closing price of Palisade's common stock on the grant date.
(4) Per the terms of Mr. Hallam's Separation Agreement and Release, vesting of awards was accelerated and deemed vested as if Mr. Hallam had remained employed for the 12 months after the date of his separation from employment with the Company on October 11, 2022.
(5) Per the terms of the 2013 Plan and the 2021 EIP, Mr. Hallam's options to purchase shares of common stock expired three months after separation from employment with the Company, which occurred on October 11, 2022.
(6) Granted under the 2013 Plan. Such options were repriced, as discussed in the section entitled "Executive Compensation—Option Repricing."

Equity Benefit Plans

The principal features of our equity plans are summarized below. The summaries below do not reflect our proposed amendments to the 2021 Equity Incentive Plan or the 2021 Employee Stock Purchase Plan contained in Proposal 3 and Proposal 4, respectively, of this Proxy Statement.

2021 Equity Incentive Plan

Our board and stockholders approved the 2021 EIP, which became effective in April 2021. The number of shares of common stock reserved for issuance under the 2021 EIP will automatically increase on January 1 of each calendar year, starting on January 1, 2022 through January 1, 3031, in an amount equal to the lesser of (1) 4% of the total number of shares of Common Stock outstanding on December 31 of the preceding year, or (2) a lesser number of shares of Common Stock determined by the Board prior to the date of the increase. As of December 31, 2022, 20,589 shares of common stock were authorized for future grants under the 2021 Plan and there were 20,844 outstanding stock options. Under the 2021 EIP, we made conditional grants to certain members of management that are subject to shareholder approval.

Our 2021 Plan provides for the grant of incentive stock options ("ISOs"), within the meaning of Section 422 of the Code to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options ("NSOs"), stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of awards to employees, directors and consultants, including employees and consultants of our affiliates. Our compensation committee has the authority, concurrent with our Board, to administer our 2021 EIP. The Board may also delegate to one or more of our officers certain authority under the terms of the 2021 Plan.

Stock options under the 2021 EIP are generally granted with an exercise price equal to the fair market value of our common stock on the date of grant. Options granted under the 2021 EIP vest at the rate specified in the stock option agreement as determined by the plan administrator. Options may have a term up to a maximum of 10 years. Unless the terms of an optionee's stock option agreement provides otherwise, if an optionee's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the optionee may generally exercise any vested options for a period of three months following the cessation of service. If an optionee's service relationship with us, or any of our affiliates, ceases due to disability or death, or an optionee dies within a certain period following cessation of service, the optionee or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual. In no event may an option be exercised beyond the expiration of its term.

Our 2021 EIP Plan provides that in the event of certain specified significant corporate transactions (or a change in control, as defined below), unless otherwise provided in an award agreement or other written agreement between us and the award holder, the administrator may take one or more of the following actions with respect to such stock awards:

- arrange for the assumption, continuation, or substitution of a stock award by a successor corporation;
- arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation;
- accelerate the vesting, in whole or in part, of the stock award and provide for its termination if not exercised (if applicable) at or before the effective time of the transaction;
- arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us;
- cancel or arrange for the cancellation of the stock award, without the approval of stockholders but with the consent of any materially adversely affected participant, in exchange for other awards, cash, or other consideration, if any, as determined by the board; or
- make a payment, in the form determined by our Board, equal to the excess, if any, of (i) the per share amount payable to holders of common stock in connection with the corporate transaction, over (ii) any per share exercise price payable by such holder, if applicable.

Under the 2021 EIP, a corporate transaction is generally the consummation of: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50% of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, or (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then (i) with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the corporate transaction, or current participants, the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full (or, in the case of performance awards with multiple vesting levels depending on the level of performance, vesting will accelerate at 100% of the target level) to a date prior to the effective time of the corporate transaction (contingent upon the effectiveness of the corporate transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the corporate transaction, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the corporate transaction), and (ii) any such stock awards that are held by persons other than current participants will terminate if not exercised (if applicable) prior to the effective time of the corporate transaction, except that any reacquisition or repurchase rights held by us with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the corporate transaction. In the event a stock award will terminate if not exercised prior to the effective time of a corporate transaction, our Board may provide, in its sole discretion, that the holder of such stock award may not exercise such stock award but instead will receive a payment equal in value to the excess (if any) of (i) the per share amount payable to holders of Common Stock in connection with the corporate transaction, over (ii) any per share exercise price payable by such holder, if applicable.

2021 Employee Stock Purchase Plan

Additional long-term equity incentives are provided through the 2021 Employee Stock Purchase Plan, or the ESPP, which became effective in connection with the Merger. The ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code. Our compensation committee has the authority, concurrent with our Board, to administer the ESPP. Under the ESPP, generally all of our regular employees (including our Named Executive Officers during their employment with us) may participate and may contribute, normally through payroll deductions, up to 15% of their earnings for the purchase of our common stock. The number of shares of common stock reserved for issuance under the ESPP will automatically increase on January 1 of each calendar year, starting on January 1, 2022 through January 1, 3031, in an amount equal to the lesser of (1) 1% of the total number of shares of Common Stock outstanding on December 31 of the preceding year, (2) 5,160 shares of Common Stock, or (3) such lesser number of shares of Common Stock as the Board may designate prior to the date of increase. As of December 31, 2022, 5,159 shares of common stock were authorized for future grants under the ESPP and there were no outstanding common stock shares issued.

The ESPP is implemented through a series of offerings of purchase rights to eligible employees. Under the ESPP, we may specify offerings with a duration of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which our common stock will be purchased for employees participating in the offering. Unless otherwise determined by our compensation committee, shares are purchased for accounts of employees participating in the ESPP at a price per share equal to the lower of (a) 85% of the fair market value of our common stock on the first date of an offering or (b) 85% of the fair market value of our common stock on the date of purchase.

2021 Inducement Plan

The Board adopted the Palisade 2021 Inducement Plan in November 2021. Our Palisade 2021 Inducement Plan was adopted without stockholder approval pursuant to Rule 5635(c) of the Nasdaq Listing Rules. Our Palisade 2021 Inducement Plan provides for the grant of nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance stock awards, performance cash awards and other forms of stock awards.

Stock awards granted under our Palisade 2021 Inducement Plan may only be made to individuals who did not previously serve as employees or non-employee directors of the Company or an affiliate of the Company (or following such individuals' bona fide period of non-employment with the Company or an affiliate of the Company), as an inducement material to the individuals' entering into employment with the Company or an affiliate of the Company or in a manner otherwise permitted by Rule 5635(c) of the Nasdaq Listing Rules. In addition, stock awards must be approved by either a majority of the Company's "independent directors" (as such term is defined in Rule 5605(a)(2) of the Nasdaq Listing Rules) or the Compensation Committee, provided such committee comprises solely independent directors. The terms of our Palisade 2021 Inducement Plan are otherwise substantially similar to our 2018 Plan (including with respect to the treatment of stock awards upon corporate transactions involving us or certain changes in our capitalization), except stock awards granted under our Palisade 2021 Inducement Plan may not be repriced without stockholder approval.

The maximum number of shares of our common stock that may be issued under our Palisade 2021 Inducement Plan is 15,000 shares. Shares subject to stock awards granted under our Palisade 2021 Inducement Plan that expire or terminate without being exercised in full, or that are paid out in cash rather than in shares, do not reduce the number of shares available for issuance under our Palisade 2021 Inducement Plan. Additionally, shares become available for future grant under our Palisade 2021 Inducement Plan if they were issued under stock awards granted under our Palisade 2021 Inducement Plan and we repurchase or reacquire them or they are forfeited. This includes shares used to pay the exercise price of a stock award or to satisfy the tax withholding obligations related to a stock award. As of December 31, 2022, there were 6,440 shares of the Company's common stock authorized and available for issuance as equity-based awards under the 2021 Inducement Plan.

Seneca Equity Compensation Plans

Seneca 2019 Plan

Pursuant to the completion of the merger transaction in April 2021, all outstanding awards under the Seneca 2019 Plan were cancelled and no further awards will be granted under the Seneca 2019 Plan.

Seneca Inducement Plan

Pursuant to the completion of the merger transaction in April 2021, all outstanding awards under the Seneca Inducement Plan were cancelled and no further awards will be granted under the Seneca Inducement Plan.

EQUITY COMPENSATION PLAN INFORMATION

The following table sets forth information with respect to our equity compensation plans which have outstanding securities as of December 31, 2022. For the description of these plans, please see below under "Equity Benefit Plans."

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options and Rights (a)		Weighted-Average Exercise Price for Outstanding Options and Rights (b)	Number of Securities Remaining Available for Future Issuance under Equity compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by security holders				
2021 EIP [(1)]	20,167	$	99.21	20,589
2013 Plan [(2)]	14,274	$	778.77	—
ESPP [(3)]	—		—	5,160
Equity compensation plans not approved by security holders				
Palisade 2021 Inducement Plan	8,560	$	51.10	6,440
Total	43,001	$	315.21	32,875

(1) On January 1 of each calendar year, the number of shares of common stock authorized under the 2021 EIP increases by an amount equal to (i) 4% of the total number of shares of common stock outstanding on December 31 of the preceding year, or (ii) a lesser number of shares of common stock determined by the Board prior to the date of the increase. Note that these calculations do not take into account the proposed amendments to the 2021 EIP contained in Proposal 3 of this Proxy Statement.

(2) Although certain outstanding awards under the plan are outstanding, no additional grants will be made pursuant to such plan.

(3) On January 1 of each calendar year, the number of shares of common stock authorized under the ESPP increases by (i) 1% of the total number of shares of common stock outstanding on December 31 of the preceding year, (ii) 6,935 shares of common stock, or (3) such lesser number of shares of common stock as the Board may designate prior to the date of increase. Note that these calculations do not take into account the proposed amendments to the ESPP contained in Proposal 4 of this Proxy Statement.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Change in Independent Registered Accounting Firm

On September 21, 2022, the Audit Committee approved the dismissal of BDO USA, LLP ("BDO") as the Company's independent registered public accounting firm.

The audit report of BDO on the consolidated financial statements of the Company as of and for the years ended December 31, 2021 and 2020 did not contain an adverse opinion or a disclaimer of opinion and was not qualified or modified as to uncertainty, audit scope or accounting principles, except that the report on the Company's consolidated financial statements as of and for the years ended December 31, 2021 and 2020 contained an explanatory paragraph regarding the Company's ability to continue as a going concern.

During the Company's two most recent fiscal years ended December 30, 2021 and 2020 and the subsequent interim period through September 21, 2022, there were no disagreements within the meaning of Item 304(a)(1)(iv) of Regulation S-K with BDO on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of BDO, would have caused BDO to make reference to the subject matter of such disagreements in connection with its report on the financial statements for such periods.

During the Company's two most recent fiscal years ended December 30, 2021 and 2020 and the subsequent interim period September 21, 2022, there were no reportable events within the meaning of Item 304(a)(1)(v) of Regulation S-K, except that as previously disclosed, the Company reported that there were material weaknesses in internal controls over financial reporting for the years ending December 31, 2021 and 2020 related to: (i) lack of controls in the financial closing and reporting process and (ii) fair value calculation of options granted.

The Company provided BDO with a copy of the disclosure made pursuant to Item 4.01 in the Company's Current Report on Form 8-K filed with the SEC on September 26, 2022 (the "Auditor 8-K"), and requested that BDO provide a letter addressed to the SEC stating whether or not it agrees with the statements made in response to Item 4.01. BDO responded with a letter dated September 26, 2022, a copy of which is attached as Exhibit 16.1 to the Company's Auditor 8-K, stating that BDO agreed with the statements set forth above (with respect to part (a) of the Auditor 8-K).

On September 21, 2022, the Audit Committee approved the appointment of Baker Tilly US, LLP ("Baker Tilly") as the Company's new independent registered public accounting firm for the year ending December 31, 2022, effective September 21, 2022.

During the years ended December 31, 2021 and 2020 and the subsequent interim periods through September 21, 2022, neither the Company nor anyone acting on its behalf consulted with Baker Tilly with respect to (i) the application of accounting principles to a specified transaction, either completed or proposed, or the type of audit opinion that might be rendered on the Company's financial statements, and neither a written report nor oral advice was provided to the Company that Baker Tilly concluded was an important factor considered by the Company in reaching a decision as to any accounting, auditing, or financial reporting issue or (ii) any matter that was either the subject of a "disagreement" or "reportable event" as those terms are defined in Item 304(a)(1) of Regulation S-K.

Principal Accountant Fees and Services

Services Rendered to the Company by Baker Tilly

The following table represents aggregate fees billed to the Company for services performed beginning September 21, 2022 (the date of appointment) through December 31, 2022 by Baker Tilly.

	Year Ended December 31, 2022
Audit Fees[(1)]	$ 265,000
Audit-related Fees	—
Tax Fees	—
All Other Fees	—
Total Fees	$ 265,000

(1) Audit fees consist of fees billed for professional services performed by Baker Tilly for the audit of our annual financial statements, reviews of our financial statements included in our quarterly reports on Form 10-Q (which only included our 10-Q for the quarter ended September 30, 2022) and annual report on Form 10-K, reviews of our current reports on Form 8-K, and related services that are normally provided in connection with regulatory filings or engagements. Baker Tilly was appointed to serve as the Company's independent registered public accounting firm on September 21, 2022.

All fees described above were pre-approved by the Audit Committee.

Services Rendered to the Company by BDO

The following table represents aggregate fees billed to the Company for the year ended December 31, 2021 and from January 1, 2022 through September 21, 2022 (the date of dismissal) by BDO.

	Year Ended December 31,	
	2022	2021
Audit Fees[1]	$ 339,609	$ 626,167
Audit-related Fees	—	—
Tax Fees		10,495
All Other Fees	—	—
Total Fees	$ 339,609	$ 636,662

(1) Audit fees consist of fees billed for professional services performed by BDO for the audit of our annual financial statements, reviews of our financial statements included in our quarterly reports on Form 10-Q and annual report on Form 10-K, services in connection with securities offerings, reviews of our registration statements on Forms S-3 and S-4, reviews of our current reports on Form 8-K, and related services that are normally provided in connection with statutory and regulatory filings or engagements. BDO served as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2021 and up through September 21, 2022 (the date of its dismissal).

All fees described above were pre-approved by the Audit Committee.

Pre-Approval Policies and Procedures

The Audit Committee has adopted a policy and procedures for the pre-approval of audit and non-audit services rendered by the Company's independent registered public accounting firm, Baker Tilly. The policy generally pre-approves specified services in the defined categories of audit services, audit-related services and tax services up to specified amounts. Pre-approval may also be given as part of the Audit Committee's approval of the scope of the engagement of the independent auditor or on an individual, explicit, case-by-case basis before the independent auditor is engaged to provide each service. The pre-approval of services may be delegated to one or more of the Audit Committee's members, but the decision must be reported to the full Audit Committee at its next scheduled meeting.

The Audit Committee has determined that the rendering of services other than audit services by Baker Tilly is compatible with maintaining the principal accountant's independence.

PROPOSAL ONE (1)

ELECTION OF DIRECTORS

The Company's Board currently consists of eight (8) members, seven (7) of which are "independent," as that term is defined by Listing Rules of the Nasdaq. The Company's Bylaws provide for the classification of the Board into three classes, as nearly equal in number as possible, with staggered terms of office. The Company's Bylaws also provide that upon expiration of the term of office for a class of directors, nominees for such class will be elected for a term of three years or until their successors are duly elected and qualified.

At this year's annual meeting, the terms of James Neal, J.D Finley, and Dr. Mary Ann Gray will expire. Three (3) directors will be elected at the annual meeting to serve for a three-year term which will expire at our annual meeting in 2026. The Board has nominated Mr. Neal, Mr. Finley, and Dr. Gray as Class III directors to stand for reelection. Each of Mr. Neal, Mr. Finley and Dr. Gray are currently directors of the Company. The candidate receiving the highest number of affirmative votes of the shares represented and entitled to vote at the Annual Meeting will be elected as Class III directors.

The section titled "Directors, Executive Officers and Corporate Governance" beginning on page 13 of this Proxy Statement contain more information about the leadership skills and other experiences that caused the Governance and Nominating Committee and the Board to determine that the nominee should serve as a director of Palisade.

NOMINEE FOR ELECTION TO THE BOARD OF DIRECTORS
For a Three Year Term Expiring at the
2026 Annual Meeting

Nominees for Term Expiring in 2026 (Class III)

The Governance and Nominating Committee recommended, and the Board of Directors nominated the following individuals to serve as Class III directors:

- James Neal;
- J.D. Finley; and
- Mary Ann Gray, Ph.D.

Except as set forth below, unless otherwise instructed, the person appointed in the accompanying form of proxy will vote the proxies received by him for the nominees, whom are presently directors of Palisade Bio. In the event that the any of the nominees become unavailable or unwilling to serve as a member of our Board of Directors, the proxy holder will vote in his discretion for substitute nominee(s). The term of office of the persons elected as a director will continue until the 2026 annual meeting or until a successor has been elected and qualified, or until the director's earlier death, resignation, or removal. The nominees for election have agreed to serve if elected, and management has no reason to believe that the nominees will be unable to serve.

Required Vote

The three nominees receiving the highest number of "FOR" votes from the holders of shares present in remote communication or represented by proxy at the Annual Meeting and entitled to vote on this Proposal 1, shall be elected as directors. Unless marked to the contrary, proxies received will be voted "FOR" the nominees.

Recommendation

Our Board of Directors Unanimously Recommends that Stockholders Vote FOR the Election of the Nominees to the Board of Directors

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PROPOSAL TWO (2)

RATIFICATION OF AUDIT COMMITTEE'S SELECTION OF BAKER TILLY US, LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR 2023

The Audit Committee has selected Baker Tilly US, LLP ("Baker Tilly") as the independent registered public accounting firm for the fiscal year ending December 31, 2023. Baker Tilly was appointed as the Company's independent registered public accounting firm on September 21, 2022 and served as the auditor for the Annual Report on Form 10-K for the year ended December 31, 2022. Prior to that, BDO USA, LLP served as the company's independent registered public accounting firm from July 8, 2021 through September 21, 2022 and served as the auditor for the Annual Report on Form 10-K for the year ended December 31, 2021. Prior to that, Dixon Hughes Goodman LLP served as the Company's independent registered public accounting firm from June 1, 2016 to July 8, 2021. Representatives of Baker Tilly are expected to attend the Annual Meeting virtually, and they will have the opportunity to make a statement if they wish.

We are asking our stockholders to ratify the selection of Baker Tilly as our independent registered public accounting firm. Although ratification is not required, our Board is submitting the selection of Baker Tilly to stockholders for ratification because we value our stockholders' views on our independent registered public accounting firm and as a matter of good corporate practice. In the event stockholders fail to ratify the appointment of Baker Tilly, the Audit Committee will reconsider this appointment. Even if the appointment is ratified, the Audit Committee, in its discretion, may direct the appointment of a different independent registered public accounting firm at any time during the year if the Audit Committee determines that the change would be in the best interests of the Company and our stockholders.

The Company has been informed by Baker Tilly that, to the best of their knowledge, neither the firm nor any of its members or their associates has any direct financial interest or material indirect financial interest in the Company or its affiliates.

Required Vote

The affirmative vote of a majority of the shares present in remote communication or represented by proxy at the Annual Meeting and entitled to vote on this Proposal Two will be required to ratify the appointment of Baker Tilly as our independent registered public accounting firm for the fiscal year ending December 31, 2023. Abstentions will have the same effect as votes "AGAINST" this proposal. Proposal Two is a matter on which brokers are expected to have discretionary voting authority, and we do not, therefore, expect any broker non-votes with respect to this proposal. Unless marked to the contrary, valid proxies received will be voted "FOR" ratification of the appointment of Baker Tilly.

Recommendation

Our Board of Directors recommends a vote FOR the ratification of the appointment of Baker Tilly US, LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023.

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PROPOSAL THREE (3)

APPROVAL OF AMENDMENTS TO THE PALISADE 2021 EQUITY INCENTIVE PLAN

In this Proposal 3, we are asking our stockholders to approve amendments to the existing Palisade Bio, Inc. 2021 Equity Incentive Plan ("2021 Equity Incentive Plan") as follows: increase (i) the number of shares of common stock issuable under the plan by 708,072 shares, (ii) the annual evergreen share increase amount from 4% to 7.5% of the outstanding shares of common stock on January 1 of each year; and the approval of conditional grants to employees which are exercisable or convertible for up to an aggregate of 209,700 shares of common stock (the "2021 Equity Plan Amendments"). If stockholders approve this proposal, the 2021 Equity Plan Amendments will become effective upon such approval.

On February 22, 2023, the Compensation Committee recommended that the Board approve the 2021 Equity Plan Amendments. On April 10, 2023, the Board approved the 2021 Equity Plan Amendments and the inclusion of such 2021 Equity Plan Amendments in this Proxy Statement.

As of the date of this Proxy Statement, the number of shares issuable under the 2021 Equity Incentive Plan is 159,215, subject to an automatic increase on January 1 of each year by 4% of the outstanding shares of common stock of the Company. Further, as of the date of this Proxy Statement, the Company had previously issued a total of 104,647 shares or shares underlying awards, of this amount (as a result of expirations or other timely cancellations for which total shares never exceeded the amount authorized under the 2021 Equity Incentive Plan), 91,260 shares have been issued or remain outstanding underlying grants. In addition, there are 209,700 shares underlying conditional (i) option grants, (ii) restricted stock units, and (iii) restricted performance stock units, all issued on February 6, 2023 (See "Plan Benefit Table" below). Therefore, prior to the amendment of the 2021 Equity Incentive Plan, there were 67,955 shares available for issuance under the 2021 Equity Incentive Plan excluding the conditional grants). Upon the approval of the 2021 Equity Plan Amendments (a) the number of shares available under the 2021 Equity Incentive Plan will be 867,287 shares (15% of the outstanding shares on the Record Date (including such number of shares issuable upon exercise of Incentive Stock Options), less (i) the existing grants that have been issued or that remain outstanding underlying grants and (ii) the 209,700 shares underlying the conditional grants, and (b) the annual evergreen share increase contained in the 2021 Equity Incentive Plan will increase form 4% to 7.5% of the outstanding shares of common stock on January 1 of each year.

Stockholder approval of the 2021 Equity Plan Amendments is required to: (i) comply with Nasdaq rules requiring stockholder approval of equity compensation plans; and (ii) comply with the incentive stock option rules under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code").

Plan Benefit Table

As of the date hereof, we have made the following conditional grants:

Name and Position	Type of Award	# of Shares Underlying Award	Dollar Value of Award ($)
J.D. Finley, Interim CEO, CFO	Option [1]	57,200	$ 87,853
	Restricted Stock Unit [2]	41,700	$ 100,080
	Performance Stock Unit [3]	32,500	$ 78,000
Robert McRae, COO	Option [1]	12,000	$ 18,431
	Restricted Stock Unit [2]	8,800	$ 21,120
	Performance Stock Unit [3]	17,900	$ 42,960
Non-Executive Employees (aggregated)	Option [1]	12,300	$ 18,891
	Restricted Stock Unit [2]	9,000	$ 21,600
	Performance Stock Unit [3]	18,300	$ 43,920

(1) On February 6, 2023, the Company issued (i) 57,200 options to J.D. Finley, (ii) 12,000 options to Robert McRae, and (iii) an aggregate of 12,300 options to certain employees. Each of the options vest in 12 equal quarterly installments over a three (3) year period from the date of issuance and was made on a conditional basis pursuant to Nasdaq market rules and will not be exercisable and can be unwound and cancelled if applicable shareholder approval is not received. Each of the options has an exercise price of $2.40, and a term of ten (10) years from issuance.

(2) On February 6, 2023, the Company issued (i) 41,700 restricted stock units to J.D. Finley, (ii) 8,800 restricted stock units to Robert McRae, and (iii) an aggregate of 9,000 restricted stock units to certain employees. Each of the restricted stock units vest in 12 equal quarterly installments over a three (3) year period from the date of issuance and was made on a conditional basis pursuant to Nasdaq market rules and will not be exercisable and can be unwound and cancelled if applicable shareholder approval is not received.

(3) On February 6, 2023, the Company issued (i) 32,500 restricted performance stock units to J.D. Finley, (ii) 17,900 restricted performance stock units to Robert McRae, and (iii) an aggregate of 18,300 restricted performance stock units to certain employees. Each of the restricted performance stock units vest (a) 50% when the volume weighted average price of the Company's common stock over 20 consecutive trading days is $3.20, and (b) 50% when such volume weighted average price of the Company's common stock over 20 consecutive trading days is $4.25. The restricted performance stock units were made on a conditional basis pursuant to Nasdaq market rules and will not be exercisable and can be unwound and cancelled if applicable shareholder approval is not received.

Summary of the Company's 2021 Equity Incentive Plan

The following is a general summary of the Company's 2021 Equity Incentive Plan, as amended by the 2021 Equity Plan Amendments, and is qualified in its entirety by the complete text of the 2021 Plan. Stockholders are urged to read the actual text of the 2021 Plan, as amended, in its entirety which is set forth as *Annex A* to this Proxy Statement.

General Information

The purpose of the Company's 2021 Equity Incentive Plan is to provide a means whereby the Company can secure and retain the services of employees, directors and consultants, to provide incentives for such persons to exert maximum efforts for the success of the Company and its affiliates and to provide a means by which such persons may be given an opportunity to benefit from increases in value of the Common Stock through the granting of awards under the Company's 2021 Equity Incentive Plan.

Approval of the Company's 2021 Equity Incentive Plan as amended by the 2021 Equity Plan Amendments, by our stockholders is required, among other things, in order to comply with stock exchange rules requiring stockholder approval of equity compensation plans and allow the grant of incentive stock options under the Company's 2021 Equity Incentive Plan. If this 2021 Equity Plan Amendments are approved by our stockholders, the 2021 Equity Incentive Plan Amendments will become effective as of the date of such approval. In the event that our stockholders do not approve this proposal, the 2021 Equity Plan Amendments will not become effective and the 2021 Equity Incentive Plan will remain in its current form.

If the request to approve the 2021 Equity Plan Amendments is approved by our stockholders, the number of shares authorized under the 2021 Equity Incentive Plan will be equal to 867,287 shares (15% of the outstanding shares on the Record Date) (as well as shares available for issuance pursuant to exercise of Incentive Stock Options), subject to adjustment for specified changes in the Company's capitalization. In addition, as further described below under the section titled "*Description of the Company's 2021 Equity Incentive Plan—Authorized Shares*," the share reserve is subject to annual increases each January 1 of up to 7.5% of shares of the Common Stock outstanding (or a lesser number determined by the Board). The Board believes this pool size is necessary to provide sufficient reserved shares for a level of grants that will attract, retain, and motivate employees and other participants.

Description of the Company's 2021 Equity Incentive Plan

A summary description of the material features of the Company's 2021 Equity Incentive Plan is set forth below. The following summary does not purport to be a complete description of all the provisions of the Company's 2021 Equity Incentive Plan and is qualified by reference to the Company's 2021 Equity Incentive Plan as amended by the 2021 Equity Plan Amendments, the form of which is attached to this proxy statement as *Annex A* and incorporated by reference in its entirety. Company stockholders should refer to the Company's 2021 Equity Incentive Plan for more complete and detailed information about the terms and conditions of the Company's 2021 Equity Incentive Plan.

Eligibility. Any individual who is an employee of the Company or any of its affiliates, or any person who provides services to the Company or its affiliates, including members of the Board, is eligible to receive awards under Company's 2021 Equity Incentive Plan at the discretion of the plan administrator. If this proposal is approved by the stockholders, all of the Company's employees, directors and consultants will be eligible to receive awards under the Company's 2021 Equity Incentive Plan.

Awards. The Company's 2021 Equity Incentive Plan provides for the grant of incentive stock options ("ISOs"), within the meaning of Section 422 of the Code to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options ("NSOs"), stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of awards to employees, directors and consultants, including employees and consultants of the Company's affiliates.

Authorized Shares. The maximum number of shares of Common Stock that may be issued under the Company's 2021 Equity Incentive Plan after the 2021 Equity Plan Amendments becomes effective will be equal to 867,287 shares (15% of the outstanding shares on the Record Date). In addition, the number of shares of Common Stock reserved for issuance under the Company's 2021 Equity Incentive Plan will automatically increase on January 1 of each year, in an amount equal to (1) 7.5% of the total number of shares of Common Stock outstanding on December 31 of the preceding year, or (2) a lesser number of shares of Common Stock determined by the Board prior to the date of the increase. The maximum number of shares of Common Stock that may be issued on the exercise of ISOs under the Company's 2021 Equity Incentive Plan will be equal to 867,287 shares (15% of the outstanding shares on the Record Date) (which will not increase with the evergreen provisions of the 2021 Equity Incentive Plan). As of April 17, 2023, the closing price of the Common Stock as reported on The Nasdaq Capital Market was $1.93 per share. Upon approval of the 2021 Equity Plan Amendments, the conditional grants described above under the heading "Plan Benefit Table" to Mr. Finley, Mr. McRae, and the other employees of the Company on a conditional basis will no longer be subject to cancellation or forfeiture.

Shares subject to stock awards granted under the Company's 2021 Equity Incentive Plan that expire or terminate without being exercised or otherwise issued in full or that are paid out in cash rather than in shares do not reduce the number of shares available for issuance under the Company's 2021 Equity Incentive Plan. Shares withheld under a stock award to satisfy the exercise, strike or purchase price of a stock award or to satisfy a tax withholding obligation do not reduce the number of shares available for issuance under the Company's 2021 Equity Incentive Plan. If any shares of Common Stock issued pursuant to a stock award are forfeited back to or repurchased or reacquired by the Company (1) because of the failure to vest, (2) to satisfy the exercise, strike or purchase price, or (3) to satisfy a tax withholding obligation in connection with an award, the shares that are forfeited or repurchased or reacquired will revert to and again become available for issuance under the Company's 2021 Equity Incentive Plan.

Non-Employee Director Compensation Limit. The aggregate value of all compensation granted or paid to any non-employee director with respect to any calendar year, including awards granted and cash fees paid to such non-employee director, will not exceed (1) $500,000 in total value or (2) if such non-employee director is first appointed or elected to the Board during such calendar year, $500,000 in total value, in each case, calculating the value of any equity awards based on the grant date fair value of such equity awards for financial reporting purposes and excluding distributions from a deferred compensation program.

Plan Administration. The Board, or a duly authorized committee thereof, will administer the Company's 2021 Equity Incentive Plan and is referred to as the "plan administrator" herein. The Board may also delegate to one or more of the Company's officers the authority to (1) designate employees (other than officers) to receive specified stock awards and (2) determine the number of shares subject to such stock awards. Under the Company's 2021 Equity Incentive Plan, the Board has the authority to determine award recipients, grant dates, the numbers and types of stock awards to be granted, the applicable fair market value, and the provisions of each stock award, including the period of exercisability and the vesting schedule applicable to a stock award.

Under the Company's 2021 Equity Incentive Plan, the Board also generally has the authority to effect, without the approval of stockholders but with the consent of any materially adversely affected participant, (1) the reduction of the exercise, purchase, or strike price of any outstanding option or stock appreciation right; (2) the cancellation of any outstanding option or stock appreciation right and the grant in substitution therefore of other awards, cash, or other consideration; or (3) any other action that is treated as a repricing under generally accepted accounting principles.

Stock Options. ISOs and NSOs are granted under stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the Company's 2021 Equity Incentive Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of a share of Common Stock on the date of grant. Options granted under the Company's 2021 Equity Incentive Plan vest at the rate specified in the stock option agreement as determined by the plan administrator.

The plan administrator determines the term of stock options granted under the Company's 2021 Equity Incentive Plan, up to a maximum of 10 years. Unless the terms of an optionholder's stock option agreement provide otherwise or as otherwise provided by the plan administrator, if an optionholder's service relationship with the Company or any of the Company's affiliates ceases for any reason other than disability, death, or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. This period may be extended in the event that exercise of the option is prohibited by applicable securities laws. Unless the terms of an optionholder's stock option agreement provide otherwise or as otherwise provided by the plan administrator, if an optionholder's service relationship with the Company or any of the Company's affiliates ceases due to death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 18 months following the date of death. Unless the terms of an optionholder's stock option agreement provide otherwise or as otherwise provided by the plan administrator, if an optionholder's service relationship with the Company or any of the Company's affiliates ceases due to disability, the optionholder may generally exercise any vested options for a period of 12 months following the cessation of service. In the event of a termination for cause, options generally terminate upon the termination date. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of Common Stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash, check, bank draft or money order, (2) a broker-assisted cashless exercise, (3) the tender of shares of Common Stock previously owned by the optionholder, (4) a net exercise of the option if it is an NSO or (5) other legal consideration approved by the plan administrator.

Unless the plan administrator provides otherwise, options and stock appreciation rights generally are not transferable except by will or the laws of descent and distribution. Subject to approval of the plan administrator or a duly authorized officer, an option may be transferred pursuant to a domestic relations order.

Tax Limitations on ISOs. The aggregate fair market value, determined at the time of grant, of Common Stock with respect to ISOs that are exercisable for the first time by an award holder during any calendar year under all of the Company's stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of the Company's total combined voting power or that of any of the Company's parent or subsidiary corporations unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant and (2) the term of the ISO does not exceed five years from the date of grant.

Restricted Stock Unit Awards. Restricted stock unit awards are granted under restricted stock unit award agreements adopted by the plan administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration that may be acceptable to the plan administrator and permissible under applicable law. A restricted stock unit award may be settled by cash, delivery of shares of Common Stock, a combination of cash and shares of Common Stock as determined by the plan administrator, or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement or by the plan administrator, restricted stock unit awards that have not vested will be forfeited once the participant's continuous service ends for any reason.

Restricted Stock Awards. Restricted stock awards are granted under restricted stock award agreements adopted by the plan administrator. A restricted stock award may be awarded in consideration for cash, check, bank draft or money order, services to us, or any other form of legal consideration that may be acceptable to the plan administrator and permissible under applicable law. The plan administrator determines the terms and conditions of restricted stock awards, including vesting and forfeiture terms. If a participant's service relationship with the Company ends for any reason, the Company may receive any or all of the shares of Common Stock held by the participant that have not vested as of the date the participant terminates service with the Company through a forfeiture condition or a repurchase right.

Stock Appreciation Rights. Stock appreciation rights are granted under stock appreciation right agreements adopted by the plan administrator. The plan administrator determines the strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of the Common Stock on the date of grant. A stock appreciation right granted under the Company's 2021 Equity Incentive Plan vests at the rate specified in the stock appreciation right agreement as determined by the plan administrator. Stock appreciation rights may be settled in cash or shares of Common Stock or in any other form of payment, as determined by the plan administrator and specified in the stock appreciation right agreement.

The plan administrator determines the term of stock appreciation rights granted under the Company's 2021 Equity Incentive Plan, up to a maximum of 10 years. Unless the terms of a participant's stock appreciation rights agreement provide otherwise or as otherwise provided by the plan administrator, if a participant's service relationship with the Company or any of its affiliates ceases for any reason other than cause, disability, or death, the participant may generally exercise any vested stock appreciation right for a period of three months following the cessation of service. This period may be further extended in the event that exercise of the stock appreciation right following such a termination of service is prohibited by applicable securities laws. Unless the terms of a participant's stock appreciation rights agreement provide otherwise or as otherwise provided by the plan administrator, if a participant's service relationship with the Company or any of its affiliates, ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested stock appreciation right for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, stock appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a stock appreciation right be exercised beyond the expiration of its term.

Performance Awards. The Company's 2021 Equity Incentive Plan permits the grant of performance awards that may be settled in stock, cash or other property. Performance awards may be structured so that the stock or cash will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period. Performance awards that are settled in cash or other property are not required to be valued in whole or in part by reference to, or otherwise based on, Common Stock.

The performance goals may be based on any measure of performance selected by the plan administrator. The performance goals may be based on company-wide performance or performance of one or more business units, divisions, affiliates, or business segments, and may be either absolute or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the plan administrator when the performance award is granted, the plan administrator will appropriately make adjustments in the method of calculating the attainment of performance goals as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any portion of the Company's business which is divested achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of Common Stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under the Company's bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; and (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles. In addition, the Board may establish or provide for other adjustment items in the award agreement at the time the award is granted or in such other document setting forth the performance goals at the time the performance goals are established.

Other Stock Awards. The plan administrator may grant other awards based in whole or in part by reference to the Common Stock. The plan administrator will set the number of shares under the stock award (or cash equivalent) and all other terms and conditions of such awards.

Changes to Capital Structure. In the event there is a specified type of change in the capital structure of the Company, such as a stock split, reverse stock split, or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the Company's 2021 Equity Incentive Plan, (2) the class of shares by which the share reserve may increase automatically each year, (3) the class and maximum number of shares that may be issued on the exercise of ISOs and (4) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

Corporate Transactions. The following applies to stock awards under the Company's 2021 Equity Incentive Plan in the event of a corporate transaction (as defined in the Company's 2021 Equity Incentive Plan), unless otherwise provided in a participant's stock award agreement or other written agreement with the Company or one of its affiliates or unless otherwise expressly provided by the plan administrator at the time of grant.

In the event of a corporate transaction, any stock awards outstanding under the Company's 2021 Equity Incentive Plan may be assumed, continued or substituted for by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by the Company with respect to the stock award may be assigned to the Company's successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then (i) with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the corporate transaction, or current participants, the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full (or, in the case of performance awards with multiple vesting levels depending on the level of performance, vesting will accelerate at 100% of the target level) to a date prior to the effective time of the corporate transaction (contingent upon the effectiveness of the corporate transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the corporate transaction, and any reacquisition or repurchase rights held by the Company with respect to such stock awards will lapse (contingent upon the effectiveness of the corporate transaction), and (ii) any such stock awards that are held by persons other than current participants will terminate if not exercised (if applicable) prior to the effective time of the corporate transaction, except that any reacquisition or repurchase rights held by the Company with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the corporate transaction.

In the event a stock award will terminate if not exercised prior to the effective time of a corporate transaction, the plan administrator may provide, in its sole discretion, that the holder of such stock award may not exercise such stock award but instead will receive a payment equal in value to the excess (if any) of (i) the per share amount payable to holders of Common Stock in connection with the corporate transaction, over (ii) any per share exercise price payable by such holder, if applicable.

Plan Amendment or Termination. The Board has the authority to amend, suspend, or terminate the Company's 2021 Equity Incentive Plan at any time, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require approval of the Company's stockholders. No ISOs may be granted after the tenth anniversary of the date the Board adopts the Company's 2021 Equity Incentive Plan. No stock awards may be granted under the Company's 2021 Equity Incentive Plan while it is suspended or after it is terminated.

U.S. Federal Income Tax Consequences

The following is a summary of the principal U.S. federal income tax consequences to participants and the Company with respect to participation in the Company's 2021 Equity Incentive Plan. This summary is not intended to be exhaustive and does not discuss the income tax laws of any local, state or foreign jurisdiction in which a participant may reside. The information is based upon current U.S. federal income tax rules and therefore is subject to change when those rules change. Because the tax consequences to any participant may depend on his or her particular situation, each participant should consult the participant's tax adviser regarding the federal, state, local and other tax consequences of the grant or exercise of an award or the disposition of stock acquired the Company's 2021 Equity Incentive Plan. The Company's 2021 Equity Incentive Plan is not qualified under the provisions of Section 401(a) of the Code and is not subject to any of the provisions of the Employee Retirement Income Security Act of 1974, as amended. The Company's ability to realize the benefit of any tax deductions described below depends on the Company's generation of taxable income as well as the requirement of reasonableness and the satisfaction of the Company's tax reporting obligations.

Nonstatutory Stock Options. Generally, there is no taxation upon the grant of an NSO. Upon exercise, a participant will recognize ordinary income equal to the excess, if any, of the fair market value of the underlying stock on the date of exercise of the stock option over the exercise price. If the participant is employed by the Company or one of its affiliates, that income will be subject to withholding taxes. The participant's tax basis in those shares will be equal to their fair market value on the date of exercise of the stock option, and the participant's capital gain holding period for those shares will begin on the day after they are transferred to the participant. Subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of a tax reporting obligation, the Company will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the participant.

Incentive Stock Options. The Company's 2021 Equity Incentive Plan provides for the grant of stock options that are intended to qualify as "incentive stock options," as defined in Section 422 of the Code. Under the Code, a participant generally is not subject to ordinary income tax upon the grant or exercise of an ISO. If the participant holds a share received upon exercise of an ISO for more than two years from the date the stock option was granted and more than one year from the date the stock option was exercised, which is referred to as the required holding period, the difference, if any, between the amount realized on a sale or other taxable disposition of that share and the participant's tax basis in that share will be long-term capital gain or loss. If, however, a participant disposes of a share acquired upon exercise of an ISO before the end of the required holding period, which is referred to as a disqualifying disposition, the participant generally will recognize ordinary income in the year of the disqualifying disposition equal to the excess, if any, of the fair market value of the share on the date of exercise of the stock option over the exercise price. However, if the sales proceeds are less than the fair market value of the share on the date of exercise of the stock option, the amount of ordinary income recognized by the participant will not exceed the gain, if any, realized on the sale. If the amount realized on a disqualifying disposition exceeds the fair market value of the share on the date of exercise of the stock option, that excess will be short-term or long-term capital gain, depending on whether the holding period for the share exceeds one year. For purposes of the alternative minimum tax, the amount by which the fair market value of a share of stock acquired upon exercise of an ISO exceeds the exercise price of the stock option generally will be an adjustment included in the participant's alternative minimum taxable income for the year in which the stock option is exercised. If, however, there is a disqualifying disposition of the share in the year in which the stock option is exercised, there will be no adjustment for alternative minimum tax purposes with respect to that share. In computing alternative minimum taxable income, the tax basis of a share acquired upon exercise of an ISO is increased by the amount of the adjustment taken into account with respect to that share for alternative minimum tax purposes in the year the stock option is exercised. The Company is not allowed a tax deduction with respect to the grant or exercise of an ISO or the disposition of a share acquired upon exercise of an ISO after the required holding period. If there is a disqualifying disposition of a share, however, the Company will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the participant, subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and provided that either the employee includes that amount in income or the Company timely satisfies its reporting requirements with respect to that amount.

Restricted Stock Awards. Generally, the recipient of a restricted stock award will recognize ordinary income at the time the stock is received equal to the excess, if any, of the fair market value of the stock received over any amount paid by the recipient in exchange for the stock. If, however, the stock is subject to restrictions constituting a substantial risk of forfeiture when it is received (for example, if the employee is required to work for a period of time in order to have the right to transfer or sell the stock), the recipient generally will not recognize income until the restrictions constituting a substantial risk of forfeiture lapse, at which time the recipient will recognize ordinary income equal to the excess, if any, of the fair market value of the stock on the date it becomes vested over any amount paid by the recipient in exchange for the stock. A recipient may, however, file an election with the Internal Revenue Service, within 30 days following the date of grant, to recognize ordinary income, as of the date of grant, equal to the excess, if any, of the fair market value of the stock on the date the award is granted over any amount paid by the recipient for the stock. The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from a restricted stock award will be the amount paid for such shares plus any ordinary income recognized either when the stock is received or when the restrictions constituting a substantial risk of forfeiture lapse. Subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of a tax reporting obligation, the Company will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the restricted stock award.

Restricted Stock Unit Awards. Generally, the recipient of a restricted stock unit award will generally recognize ordinary income at the time the stock is delivered equal to the excess, if any, of (i) the fair market value of the stock received over any amount paid by the recipient in exchange for the stock or (ii) the amount of cash paid to the participant. The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from a restricted stock unit award will be the amount paid for such shares plus any ordinary income recognized when the stock is delivered, and the participant's capital gain holding period for those shares will begin on the day after they are transferred to the participant. Subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of a tax reporting obligation, the Company will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the restricted stock unit award.

Stock Appreciation Rights. Generally, the recipient of a stock appreciation right will recognize ordinary income equal to the fair market value of the stock or cash received upon such exercise. Subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of a tax reporting obligation, the Company will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the stock appreciation right.

Tax Consequences to the Company

Compensation of Covered Employees. The ability of the Company to obtain a deduction for amounts paid under the Company's 2021 Equity Incentive Plan could be limited by Section 162(m) of the Code. Section 162(m) of the Code limits the Company's ability to deduct compensation, for U.S. federal income tax purposes, paid during any year to a "covered employee" (within the meaning of Section 162(m) of the Code) in excess of $1 million.

Golden Parachute Payments. The ability of the Company (or the ability of one of its subsidiaries) to obtain a deduction for future payments under the Company's 2021 Equity Incentive Plan could also be limited by the golden parachute rules of Section 280G of the Code, which prevent the deductibility of certain "excess parachute payments" made in connection with a change in control of an employer-corporation.

New Plan Benefits

The awards, if any, that will be made to eligible persons under the Company's 2021 Equity Incentive Plan are subject to the discretion of the compensation committee of the Board. Therefore, the Company cannot currently determine the benefits or number of shares subject to awards that may be granted in the future and a new plan benefits table is thus not provided.

Vote Required for Approval

The affirmative vote of a majority of the shares present in remote communication or represented by proxy at the Annual Meeting and entitled to vote on this proposal will be required to approve Proposal 3. Abstentions will have the same effect as votes "AGAINST" this proposal. It is anticipated that Proposal 3 will be a non-discretionary proposal considered non-routine under the rules of the New York Stock Exchange, which generally controls the ability of brokers to vote or not vote shares held in street name on certain matters, and thus may result in broker non-votes. Unless marked to the contrary, proxies received will be voted "FOR" the Incentive Plan Proposal.

Recommendation of the Board

THE BOARD RECOMMENDS THAT STOCKHOLDERS VOTE "FOR" THE APPROVAL OF THE INCENTIVE PLAN PROPOSAL.

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PROPOSAL FOUR (4)

APPROVAL OF THE AMENDMENTS TO THE 2021 EMPLOYEE STOCK PURCHASE PLAN

Overview

In this Proposal 4, we are asking our stockholders to approve an amendment to the existing Palisade Bio, Inc. 2021 Employee Stock Purchase Plan (the "ESPP") to increase (i) the number of shares of common stock authorized under the plan by 109,944 shares, and (ii) the annual evergreen share increase amount from 1% to 2.5% of the outstanding shares of common stock on January 1 of each year (collectively, the "ESPP Amendments").

On February 22, 2023, the Compensation Committee recommended that the Board approve the ESPP Amendments. On April 10, 2023, the Board approved the ESPP Amendments and the inclusion of such ESPP Amendments in this Proxy Statement.

The purpose of the ESPP is to provide a means whereby the Company can align the long-term financial interests of its employees with the financial interests of its stockholders. In addition, the board of directors believes that the ability to allow its employees to purchase shares of Common Stock will help the Company to attract, retain, and motivate employees and encourages them to devote their best efforts to the Company's business and financial success. Approval of the ESPP Amendments by the Company's stockholders will allow the Company to provide its employees with the opportunity to acquire an ownership interest in the Company through their participation in the ESPP, thereby encouraging them to remain in service and more closely aligning their interests with those of the Company's stockholders.

Description of the ESPP

The material features of the ESPP are described below. The following description of the ESPP is a summary only. This summary is not a complete statement of the ESPP and is qualified in its entirety by reference to the complete text of the ESPP, as amended by the ESPP Amendments, a copy of which is attached to this Proxy Statement as *Annex B*. Company stockholders should refer to the ESPP for more complete and detailed information about the terms and conditions of the ESPP.

Purpose. The purpose of the ESPP is to provide a means by which eligible employees of the Company and certain designated companies may be given an opportunity to purchase shares of Common Stock, to assist the Company in retaining the services of eligible employees, to secure and retain the services of new employees and to provide incentives for such persons to exert maximum efforts for the Company's success.

The Plan includes two components: a 423 Component and a Non-423 Component. The Company intends that the 423 Component will qualify as options issued under an "employee stock purchase plan" as that term is defined in Section 423(b) of the Code. Except as otherwise provided in the ESPP or determined by the Board, the Non-423 Component will operate and be administered in the same manner as the 423 Component.

Share Reserve. The maximum number of shares of Common Stock that may be issued under the ESPP after the ESPP Amendments become effective will be equal to 144,547 shares of Common Stock (2.5% of the outstanding shares on the Record Date). Additionally, the number of shares of Common Stock reserved for issuance under the ESPP will automatically increase on January 1st of each year, by the lesser of (1) 4% of the total number of shares of the Company's Common Stock outstanding on December 31st of the preceding calendar year, or (2) 433,641 shares. Shares subject to purchase rights granted under the ESPP that terminate without having been exercised in full will not reduce the number of shares available for issuance under the ESPP. As of April 17, 2023, the closing price of the Company's Common Stock as reported on The Nasdaq Capital Market was $1.93 per share.

Administration. The Board, or a duly authorized committee thereof, will administer the ESPP.

Limitations. Company employees and the employees of any of its designated affiliates, will be eligible to participate in the ESPP, provided they may have to satisfy one or more of the following service requirements before participating in the ESPP, as determined by the administrator: (1) customary employment with the Company or one of its affiliates for more than 20 hours per week and five or more months per calendar year or (2) continuous employment with the Company or one of its affiliates for a minimum period of time, not to exceed two years, prior to the first date of an offering. In addition, the Board may also exclude from participation in the ESPP or any offering, employees who are "highly compensated employees" (within the meaning of Section 423(b)(4)(D) of the Code) or a subset of such highly compensated employees. An employee may not be granted rights to purchase stock under the ESPP (a) if such employee immediately after the grant would own stock possessing 5% or more of the total combined voting power or value of all classes of Company stock or (b) to the extent that such rights would accrue at a rate that exceeds $25,000 worth of Company stock for each calendar year that the rights remain outstanding.

The ESPP is intended to qualify as an employee stock purchase plan under Section 423 of the Code. The administrator may specify offerings with a duration of not more than 27 months, and may specify one or more shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of Company Common Stock will be purchased for the employees who are participating in the offering. The administrator, in its discretion, will determine the terms of offerings under the ESPP. The administrator has the discretion to structure an offering so that if the fair market value of a share of Company stock on any purchase date during the offering period is less than or equal to the fair market value of a share of Company stock on the first day of the offering period, then that offering will terminate immediately, and the participants in such terminated offering will be automatically enrolled in a new offering that begins immediately after such purchase date.

A participant may not transfer purchase rights under the ESPP other than by will, the laws of descent and distribution, or as otherwise provided under the ESPP.

Payroll Deductions. The ESPP permits participants to purchase shares of Common Stock through payroll deductions of up to 15% of their earnings. Unless otherwise determined by the administrator, the purchase price of the shares will be 85% of the lower of the fair market value of Common Stock on the first day of an offering or on the date of purchase. Participants may end their participation at any time during an offering and will be paid their accrued contributions that have not yet been used to purchase shares, without interest. Participation ends automatically upon termination of employment with the Company and its related corporations.

Withdrawal. Participants may withdraw from an offering by delivering a withdrawal form to the Company and terminating their contributions. Such withdrawal may be elected at any time prior to the end of an offering, except as otherwise provided by the Plan Administrator. Upon such withdrawal, the Company will distribute to the employee his or her accumulated but unused contributions without interest, and such employee's right to participate in that offering will terminate. However, an employee's withdrawal from an offering does not affect such employee's eligibility to participate in any other offerings under the ESPP.

Termination of Employment. A participant's rights under any offering under the ESPP will terminate immediately if the participant either (i) is no longer employed by the Company or any of its parent or subsidiary companies (subject to any post-employment participation period required by law) or (ii) is otherwise no longer eligible to participate. In such event, the Company will distribute to the participant his or her accumulated but unused contributions, without interest.

Corporate Transactions. In the event of certain specified significant corporate transactions, such as a merger or change in control, a successor corporation may assume, continue, or substitute each outstanding purchase right. If the successor corporation does not assume, continue, or substitute for the outstanding purchase rights, the offering in progress will be shortened and a new purchase date will be set. The participants' purchase rights will be exercised on the new purchase date and such purchase rights will terminate immediately thereafter.

Amendment and Termination. The Board has the authority to amend, suspend, or terminate the ESPP, at any time and for any reason, provided certain types of amendments will require the approval of the Company's stockholders. Any benefits, privileges, entitlements and obligations under any outstanding purchase rights granted before an amendment, suspension or termination of the Plan will not be materially impaired by any such amendment, suspension or termination except (i) with the consent of the person to whom such purchase rights were granted, (ii) as necessary to facilitate compliance with any laws, listing requirements, or governmental regulations, or (iii) as necessary to obtain or maintain favorable tax, listing, or regulatory treatment. The ESPP will remain in effect until terminated by the Board in accordance with the terms of the ESPP.

U.S. Federal Income Tax Consequences

The following is a summary of the principal U.S. federal income tax consequences to participants and the Company with respect to participation in the ESPP. This summary is not intended to be exhaustive and does not discuss the income tax laws of any local, state or foreign jurisdiction in which a participant may reside. The information is based upon current U.S. federal income tax rules and therefore is subject to change when those rules change. Because the tax consequences to any participant may depend on his or her particular situation, each participant should consult the participant's tax adviser regarding the federal, state, local, and other tax consequences of the grant or exercise of a purchase right or the sale or other disposition of Common Stock acquired under the ESPP. The ESPP is not qualified under the provisions of Section 401(a) of the Code and is not subject to any of the provisions of the Employee Retirement Income Security Act of 1974, as amended.

423 Component of the ESPP

Rights granted under the 423 Component of the ESPP are intended to qualify for favorable U.S. federal income tax treatment associated with rights granted under an employee stock purchase plan which qualifies under the provisions of Section 423 of the Code.

A participant will be taxed on amounts withheld for the purchase of shares of Company Common Stock as if such amounts were actually received. Otherwise, no income will be taxable to a participant as a result of the granting or exercise of a purchase right until a sale or other disposition of the acquired shares. The taxation upon such sale or other disposition will depend upon the holding period of the acquired shares.

If the shares are sold or otherwise disposed of more than two years after the beginning of the offering period and more than one year after the shares are transferred to the participant, then the lesser of the following will be treated as ordinary income: (i) the excess of the fair market value of the shares at the time of such sale or other disposition over the purchase price; or (ii) the excess of the fair market value of the shares as of the beginning of the offering period over the purchase price (determined as of the beginning of the offering period). Any further gain or any loss will be taxed as a long-term capital gain or loss.

If the shares are sold or otherwise disposed of before the expiration of either of the holding periods described above, then the excess of the fair market value of the shares on the purchase date over the purchase price will be treated as ordinary income at the time of such sale or other disposition. The balance of any gain will be treated as capital gain. Even if the shares are later sold or otherwise disposed of for less than their fair market value on the purchase date, the same amount of ordinary income is attributed to the participant, and a capital loss is recognized equal to the difference between the sales price and the fair market value of the shares on such purchase date. Any capital gain or loss will be short-term or long-term, depending on how long the shares have been held.

Non-423 Component

A participant will be taxed on amounts withheld for the purchase of shares of Company Common Stock as if such amounts were actually received. Under the Non-423 Component, a participant will recognize ordinary income equal to the excess, if any, of the fair market value of the underlying stock on the date of exercise of the purchase right over the purchase price. If the participant is employed by the Company or one of its affiliates, that income will be subject to withholding taxes. The participant's tax basis in those shares will be equal to their fair market value on the date of exercise of the purchase right, and the participant's capital gain holding period for those shares will begin on the day after they are transferred to the participant.

There are no U.S. federal income tax consequences to the Company by reason of the grant or exercise of rights under the ESPP. The Company is entitled to a deduction to the extent amounts are taxed as ordinary income to a participant for shares sold or otherwise disposed of before the expiration of the holding periods described above (subject to the requirement of reasonableness, the deduction limits under Section 162(m) of the Code and the satisfaction of tax reporting obligations).

New Plan Benefits

Participation in the ESPP is voluntary and each eligible employee will make his or her own decision regarding whether and to what extent to participate in the ESPP. Therefore, the Company cannot currently determine the benefits or number of shares subject to purchase rights and a new plan benefits table is thus not provided.

Vote Required for Approval

The affirmative vote of a majority of the shares present in remote communication or represented by proxy at the Annual Meeting and entitled to vote on this proposal will be required to approve Proposal 4. Abstentions will have the same effect as votes "AGAINST" this proposal. It is anticipated that Proposal 4 will be a non-discretionary proposal considered non-routine under the rules of the New York Stock Exchange, which generally controls the ability of brokers to vote or not vote shares held in street name on certain matters, and thus may result in broker non-votes. Unless marked to the contrary, proxies received will be voted "FOR" the Purchase Plan Proposal.

Recommendation of the Board

THE BOARD RECOMMENDS THAT STOCKHOLDERS VOTE "FOR" THE APPROVAL OF THE PURCHASE PLAN PROPOSAL.

PROPOSAL FIVE (5)

ADVISORY VOTE TO APPROVE EXECUTIVE COMPENSATION

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act, and Section 14A of the Exchange Act, our stockholders are entitled to vote to approve, on an advisory basis, the compensation of the Company's named executive officers as disclosed in this Proxy Statement in accordance with SEC rules. At the 2020 Annual Meeting of Stockholders, the stockholders indicated their preference that the Company solicit a non-binding advisory vote on the compensation of the named executive officers, commonly referred to as a "say-on-pay vote," every year. The Board has adopted a policy that is consistent with that preference. In accordance with that policy, this year, the Company is again asking the stockholders to approve, on an advisory basis, the compensation of the Company's named executive officers as disclosed in this proxy statement in accordance with SEC rules.

This vote is not intended to address any specific item of compensation, but rather the overall compensation of the Company's named executive officers and the philosophy, policies and practices described in this Proxy Statement. The compensation of the Company's named executive officers subject to the vote is disclosed in the compensation tables, and the related narrative disclosure contained in this Proxy Statement. The Company believes that its compensation policies and decisions are focused on pay-for-performance, aligned with our stockholders' interests and consistent with current market practices. Compensation of the Company's named executive officers is designed to enable the Company to attract and retain talented and experienced executives to lead the Company successfully in a competitive environment.

Accordingly, the Board is asking the stockholders to indicate their support for the compensation of the Company's named executive officers as described in this Proxy Statement by casting a non-binding advisory vote "FOR" the following resolution:

> "RESOLVED, that the compensation paid to the named executive officers, as disclosed in this Proxy Statement pursuant to the SEC's executive compensation disclosure rules (which disclosure includes the compensation tables and the narrative disclosures that accompany the compensation tables), is hereby approved."

Because the vote is advisory, it is not binding on the Board or the Company. Nevertheless, the views expressed by the stockholders, whether through this vote or otherwise, are important to management and the Board and, accordingly, the Board and the Compensation Committee intend to consider the results of this vote in making determinations in the future regarding executive compensation arrangements.

The Company's current policy is to provide stockholders with an opportunity to approve the compensation of the named executive officers every year at the annual meeting of stockholders. Notwithstanding, the Company is requesting at this Annual Meeting, that the stockholders of the Company vote on the frequency of approving say-on-pay voting and recommending that instead of a vote every year, the vote would be every 3 years (See Proposal 6 below).

Vote Required

The affirmative vote of a majority of the shares present in remote communication or represented by proxy at the Annual Meeting and entitled to vote on this proposal will be required to approve Proposal 4. Abstentions will have the same effect as votes "AGAINST" this proposal. It is anticipated that Proposal 4 will be a non-discretionary proposal considered non-routine under the rules of the New York Stock Exchange, which generally controls the ability of brokers to vote or not vote shares held in street name on certain matters, and thus may result in broker non-votes. Because this vote is advisory, it will not be binding upon our Board. However, the Compensation Committee will consider the outcome of the vote, along with other relevant factors, in evaluating its executive compensation program. Unless marked to the contrary, valid proxies received will be voted "FOR" the say-on-pay proposal.

Recommendation of the Board

Our Board of Directors recommends a vote "FOR" the approval of the Say-on-Pay Proposal.

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PROPOSAL SIX (6)

ADVISORY VOTE TO APPROVE THE FREQUENCY OF HOLDING FUTURE ADVISORY VOTES ON EXECUTIVE COMPENSATION EVERY 1, 2 OR 3 YEARS

As required by Section 14A of the Exchange Act and the related rules of the SEC, the Board is conducting a non-binding, advisory vote to determine how often (once every one, two, or three years) stockholders should be asked to vote on the executive compensation of the Company. The Company is required to hold the say-on-pay vote at least once every three years.

Stockholders may also abstain from voting on this proposal. In considering your vote, you may wish to review the information presented in Proposal 5 of this Proxy Statement, as well as the executive compensation tables included in this Proxy Statement and the narrative disclosures that accompany the compensation tables, which provide a more detailed discussion of our executive compensation programs and policies.

Our Board has determined that holding a "say-on-pay" vote every three years is most appropriate for the Company and recommends that you vote to hold future advisory votes every third year, for the following reasons:

- *A triennial vote encourages a longer-term evaluation of compensation history and business results.*

  The Board believes that there is some risk that an annual advisory vote on executive compensation could lead to a short-term shareholder perspective regarding executive compensation that does not align well with the longer-term approach used by our Compensation Committee. We believe a three-year cycle for the shareholder advisory vote will provide investors the most meaningful timing alternative by which to evaluate the effectiveness of our executive compensation strategies and their alignment with the Company's performance, financial results and business.

- *A triennial vote provides our Compensation Committee with adequate time to consider the results of say-on-pay votes and other shareholder input*.

A triennial "say-on-pay" vote allows the Board to respond to shareholder sentiment and effectively implement any desired changes to executive compensation policies, practices and programs.

The Board believes that a triennial vote would not foreclose shareholder engagement on executive compensation during interim periods. shareholders can currently provide input directly to the Board, its committees or individual directors as indicated in the section of this proxy entitled "Directors, Executive Officers and Corporate Governance – Stockholder Communications with the Board of Directors." Thus, we view the advisory vote on executive compensation as an additional, but not exclusive, opportunity for our shareholders to communicate their views on the Company's executive compensation programs.

The Board weighed these reasons against the arguments in support of conducting the advisory vote annually or biannually. In particular, the Board considered the value of the opportunity for shareholder input at each annual meeting, as well as the belief that annual votes would promote greater accountability on executive compensation. Although the Board believes that these and other positions put forth in favor of an annual "say-on-pay" vote are not without merit, on balance, the Board believes that a triennial approach is most appropriate for the Company and recommends such manner of voting to shareholders. The Compensation Committee intends to periodically reassess that view and, if it determines appropriate, may provide for an advisory vote on executive compensation on a more frequent basis.

Required Vote

The frequency that receives the highest number of votes cast will be deemed to be the frequency selected by the stockholders. Because this vote is advisory, it will not be binding upon our Board. However, the Compensation Committee will consider the outcome of the stockholder vote, along with other relevant factors, in recommending a voting frequency to our Board. Abstentions and broker non-votes will have no effect on this proposal. Unless marked to the contrary, valid proxies received will be voted for the once every "3 YEARS" option.

Recommendation of the Board

Our Board of Directors recommends a vote for a frequency of once every "3 YEARS" for future say-on-pay votes.

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HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for Notices of Internet Availability of Proxy Materials or other Annual Meeting materials with respect to two or more stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy Materials or other Annual Meeting materials addressed to those stockholders. This process, which is commonly referred to as "householding," potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of brokers with account holders who are Palisade stockholders will be "householding" the Company's proxy materials. A single Notice of Internet Availability of Proxy Materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders.

Once you have received notice from your broker that they will be "householding" communications to your address, "householding" will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in "householding" and would prefer to receive a separate Notice of Internet Availability of Proxy Materials, please notify your broker or Palisade. Direct your written request to the attention of the Secretary of Palisade Bio, Inc., Palisade Bio, Inc., 7750 El Camino Real, Suite 2A, Carlsbad, CA 92009. Stockholders who currently receive multiple copies of the Notice of Internet Availability of Proxy Materials at their addresses and would like to request "householding" of their communications should contact their brokers.

ANNUAL REPORT ON FORM 10-K AND OTHER SEC FILINGS

You can obtain copies of this Proxy Statement, our 2022 Annual Report and exhibits, as well as other filings we make with the SEC, on the SEC's website at www.sec.gov or on Palisade's website at www.palisadebio.com. Additional copies may be requested in writing. Such requests should be submitted to J.D. Finley, Chief Executive Officer, Palisade Bio, Inc., 7750 El Camino Real, Suite 2A, Carlsbad, CA 92009. Exhibits to Form 10-K will also be provided upon specific request. The materials will be provided without charge.

We have not incorporated by reference into this Proxy Statement the information in, or that can be accessed through, our website or social media channels, and you should not consider it to be a part of this Proxy Statement.

OTHER MATTERS

We have not received notice of and do not expect any matters to be presented for a vote at the Annual Meeting, other than the proposals described in this Proxy Statement. If you grant a proxy, the person named as proxy holders, J.D. Finley, or James Neal, or their nominees or substitutes, will have the discretion to vote your shares on any additional matters properly presented for a vote at the meeting. If for any unforeseen reason, any of our nominees are not available as a candidate for director, the proxy holders will vote your proxy for such other candidate or candidates nominated by the Board.

P.O. BOX 8016, CARY, NC 27512-9903

YOUR VOTE IS IMPORTANT! PLEASE VOTE BY:

INTERNET
Go To: **www.proxypush.com/PALI**
- Cast your vote online
- **Have your Proxy Card ready**
- Follow the simple instructions to record your vote

PHONE Call **1-866-243-5513**
- Use any touch-tone telephone
- **Have your Proxy Card ready**
- Follow the simple recorded instructions

MAIL
- Mark, sign and date your Proxy Card
- Fold and return your Proxy Card in the postage-paid envelope provided

You must register to attend the meeting virtually and/or participate at www.proxydocs.com/PALI

Palisade Bio, Inc.

Annual Meeting of Stockholders

For Stockholders of record as of April 10, 2023

TIME: Thursday, June 8, 2023 10:00 AM, Pacific Time
PLACE: Annual Meeting to be held virtually via the Internet - please visit www.proxydocs.com/PALI for more details

This proxy is being solicited on behalf of the Board of Directors

The undersigned hereby appoints J.D. Finley and James Neal (the "Named Proxies"), and each or either of them, as the true and lawful attorneys of the undersigned, with full power of substitution and revocation, and authorizes them, and each of them, to vote all the shares of capital stock of Palisade Bio, Inc. which the undersigned is entitled to vote at said meeting and any adjournment or postponement thereof upon the matters specified and upon such other matters as may be properly brought before the meeting or any adjournment or postponement thereof, conferring authority upon such true and lawful attorneys to vote in their discretion on such other matters as may properly come before the meeting and revoking any proxy heretofore given.

THE SHARES REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED OR, IF NO DIRECTION IS GIVEN, SHARES WILL BE VOTED IDENTICAL TO THE BOARD OF DIRECTORS RECOMMENDATION. This proxy, when properly executed, will be voted in the manner directed herein. In their discretion, the Named Proxies are authorized to vote upon such other matters that may properly come before the meeting or any adjournment or postponement thereof.

You are encouraged to specify your choice by marking the appropriate box (SEE REVERSE SIDE) but you need not mark any box if you wish to vote in accordance with the Board of Directors' recommendation. The Named Proxies cannot vote your shares unless you sign (on the reverse side) and return this card.

PLEASE BE SURE TO SIGN AND DATE THIS PROXY CARD AND MARK ON THE REVERSE SIDE

Palisade Bio, Inc.

Annual Meeting of Stockholders

Please make your marks like this: [X]

THE BOARD OF DIRECTORS RECOMMENDS A VOTE:

FOR ON PROPOSALS 1, 2, 3, 4 AND 5
THE BOARD RECOMMENDS THAT AN ADVISORY VOTE ON THE COMPENSATION FOR NAMED EXECUTIVE OFFICERS BE HELD EVERY 3 YEARS.

	PROPOSAL	YOUR VOTE				BOARD OF DIRECTORS RECOMMENDS
1.	Elect three Class III directors to hold office until the 2026 Annual Meeting of Stockholders or until a successor is duly elected and qualified or until the director's earlier death, resignation or removal.	FOR	WITHHOLD			
	1.01 James Neal	☐	☐			FOR
	1.02 J.D. Finley	☐	☐			FOR
	1.03 Mary Ann Gray, Ph.D.	☐	☐			FOR
		FOR	AGAINST	ABSTAIN		
2.	Ratify the appointment of Baker Tilly US, LLP, as our independent registered public accounting firm for the fiscal year ending December 31, 2023.	☐	☐	☐		FOR
3.	Approve amendments to the Palisade 2021 Equity Incentive Plan to increase (i) the number of shares of common stock issuable under the plan by 708,072 shares and (ii) the annual evergreen share increase amount from 4% to 7.5% of the outstanding shares of common stock on January 1 of each year; and the approval of conditional grants to employees which are exercisable or convertible for up to an aggregate of 209,700 shares of common stock.	☐	☐	☐		FOR
4.	Approve amendments to the Palisade 2021 Employee stock Purchase Plan to increase (i) the number of shares of common stock authorized under the plan by 109,944 shares and (ii) the annual evergreen share increase amount from 1% to 2.5% of the outstanding shares of common stock on January 1 of each year.	☐	☐	☐		FOR
5.	Approve, on a non-binding advisory basis, the compensation of our named executive officers as disclosed in the proxy statement.	☐	☐	☐		FOR
		1YR	2YR	3YR	ABSTAIN	
6.	Approve, on a non-binding advisory basis, the frequency of holding future advisory votes on executive compensation every 1, 2, or 3 years.	☐	☐	☐	☐	3 YEARS

You must register to attend the meeting virtually and/or participate at www.proxydocs.com/PALI

Authorized Signatures - Must be completed for your instructions to be executed.
Please sign exactly as your name(s) appears on your account. If held in joint tenancy, all persons should sign. Trustees, administrators, etc., should include title and authority. Corporations should provide full name of corporation and title of authorized officer signing the Proxy/Vote Form.

Signature (and Title if applicable) Date

Signature (if held jointly) Date

ANNEX A

2021 EQUITY INCENTIVE PLAN (INCLUDING PROPOSED AMENDMENTS)

PALISADE BIO, INC.

2021 EQUITY INCENTIVE PLAN

ADOPTED BY THE BOARD OF DIRECTORS: FEBRUARY 9, 2021
APPROVED BY THE STOCKHOLDERS: APRIL 9, 2021
AMENDED BY THE STOCKHOLDERS: NOVEMBER 18, 2021
AMENDED BY THE STOCKHOLDERS: JUNE [*], 2023

1. GENERAL.

(a) Plan Purpose. The Company, by means of the Plan, seeks to secure and retain the services of Employees, Directors and Consultants, to provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and to provide a means by which such persons may be given an opportunity to benefit from increases in value of the Common Stock through the granting of Awards.

(b) Available Awards. The Plan provides for the grant of the following Awards: (i) Incentive Stock Options; (ii) Nonstatutory Stock Options; (iii) SARs; (iv) Restricted Stock Awards; (v) RSU Awards; (vi) Performance Awards; and (vii) Other Awards.

(c) Adoption Date; Effective Date. The Plan will come into existence on the Adoption Date, but no Award may be granted prior to the Effective Date.

2. SHARES SUBJECT TO THE PLAN.

(a) Share Reserve. Subject to adjustment in accordance with Section 2(c) and any adjustments as necessary to implement any Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Awards will not exceed 867,287 shares. In addition, subject to any adjustments as necessary to implement any Capitalization Adjustments, such aggregate number of shares of Common Stock will automatically increase on January 1 of each year for a period of ten years commencing on January 1, 2022 and ending on (and including) January 1, 2031, in an amount equal to 7.5% of the total number of shares of Common Stock outstanding on December 31 of the preceding year; *provided*, *however*, that the Board may act prior to January 1st of a given year to provide that the increase for such year will be a lesser number of shares of Common Stock.

(b) Aggregate Incentive Stock Option Limit. Notwithstanding anything to the contrary in Section 2(a) and subject to any adjustments as necessary to implement any Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options is 867,287 shares.

(c) Share Reserve Operation.

(i) Limit Applies to Common Stock Issued Pursuant to Awards. For clarity, the Share Reserve is a limit on the number of shares of Common Stock that may be issued pursuant to Awards and does not limit the granting of Awards, except that the Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy its obligations to issue shares pursuant to such Awards. Shares may be issued in connection with a merger or acquisition as permitted by, as applicable, Nasdaq Listing Rule 5635(c), NYSE Listed Company Manual Section 303A.08, NYSE American Company Guide Section 711 or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(ii) Actions that Do Not Constitute Issuance of Common Stock and Do Not Reduce Share Reserve. The following actions do not result in an issuance of shares under the Plan and accordingly do not reduce the number of shares subject to the Share Reserve and available for issuance under the Plan: (1) the expiration or termination of any portion of an Award without the shares covered by such portion of the Award having been issued, (2) the settlement of any portion of an Award in cash (i.e., the Participant receives cash rather than Common Stock), (3) the withholding of shares that would otherwise be issued by the Company to satisfy the exercise, strike or purchase price of an Award; or (4) the withholding of shares that would otherwise be issued by the Company to satisfy a tax withholding obligation in connection with an Award.

(iii) Reversion of Previously Issued Shares of Common Stock to Share Reserve. The following shares of Common Stock previously issued pursuant to an Award and accordingly initially deducted from the Share Reserve will be added back to the Share Reserve and again become available for issuance under the Plan: (1) any shares that are forfeited back to or repurchased by the Company because of a failure to meet a contingency or condition required for the vesting of such shares; (2) any shares that are reacquired by the Company to satisfy the exercise, strike or purchase price of an Award; and (3) any shares that are reacquired by the Company to satisfy a tax withholding obligation in connection with an Award.

3. ELIGIBILITY AND LIMITATIONS.

(a) Eligible Award Recipients. Subject to the terms of the Plan, Employees, Directors and Consultants are eligible to receive Awards.

(b) Specific Award Limitations.

(i) Limitations on Incentive Stock Option Recipients. Incentive Stock Options may be granted only to Employees of the Company or a "parent corporation" or "subsidiary corporation" thereof (as such terms are defined in Sections 424(e) and (f) of the Code).

(ii) Incentive Stock Option $100,000 Limitation. To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds $100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(iii) Limitations on Incentive Stock Options Granted to Ten Percent Stockholders. A Ten Percent Stockholder may not be granted an Incentive Stock Option unless (i) the exercise price of such Option is at least 110% of the Fair Market Value on the date of grant of such Option and (ii) the Option is not exercisable after the expiration of five years from the date of grant of such Option.

(iv) Limitations on Nonstatutory Stock Options and SARs. Nonstatutory Stock Options and SARs may not be granted to Employees, Directors and Consultants unless the stock underlying such Awards is treated as "service recipient stock" under Section 409A or unless such Awards otherwise comply with the requirements of Section 409A.

(c) Non-Employee Director Compensation Limit. The aggregate value of all compensation granted or paid, as applicable, to any individual for service as a Non-Employee Director with respect to any calendar year, including Awards granted and cash fees paid by the Company to such Non-Employee Director, will not exceed (i) $500,000 in total value or (ii) in the event such Non-Employee Director is first appointed or elected to the Board during such calendar year, $500,000 in total value, in each case, calculating the value of any equity awards based on the grant date fair value of such equity awards for financial reporting purposes and excluding distributions from a deferred compensation program.

4. OPTIONS AND STOCK APPRECIATION RIGHTS.

Each Option and SAR will have such terms and conditions as determined by the Board. Each Option will be designated in writing as an Incentive Stock Option or Nonstatutory Stock Option at the time of grant; *provided*, *however*, that if an Option is not so designated or if an Option designated as an Incentive Stock Option fails to qualify as an Incentive Stock Option, then such Option will be a Nonstatutory Stock Option, and the shares purchased upon exercise of each type of Option will be separately accounted for. Each SAR will be denominated in shares of Common Stock equivalents. The terms and conditions of separate Options and SARs need not be identical; *provided*, *however*, that each Option Agreement and SAR Agreement will conform (through incorporation of provisions hereof by reference in the Award Agreement or otherwise) to the substance of each of the following provisions:

(a) Term. Subject to Section 3(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of ten years from the date of grant of such Award or such shorter period specified in the Award Agreement.

(b) Exercise or Strike Price. Subject to Section 3(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will not be less than 100% of the Fair Market Value on the date of grant of such Award. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than 100% of the Fair Market Value on the date of grant of such Award if such Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Sections 409A and, if applicable, 424(a) of the Code.

(c) Exercise Procedure and Payment of Exercise Price for Options. In order to exercise an Option, the Participant must provide notice of exercise to the Plan Administrator in accordance with the procedures specified in the Option Agreement or otherwise provided by the Company. The Board has the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to utilize a particular method of payment. The exercise price of an Option may be paid, to the extent permitted by Applicable Law and as determined by the Board, by one or more of the following methods of payment to the extent set forth in the Option Agreement:

(i) by cash or check, bank draft or money order payable to the Company;

(ii) pursuant to a "cashless exercise" program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the Common Stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the exercise price to the Company from the sales proceeds;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock that are already owned by the Participant free and clear of any liens, claims, encumbrances or security interests, with a Fair Market Value on the date of exercise that does not exceed the exercise price, *provided* that (1) at the time of exercise the Common Stock is publicly traded, (2) any remaining balance of the exercise price not satisfied by such delivery is paid by the Participant in cash or other permitted form of payment, (3) such delivery would not violate any Applicable Law or agreement restricting the redemption of the Common Stock, (4) any certificated shares are endorsed or accompanied by an executed assignment separate from certificate, and (5) such shares have been held by the Participant for any minimum period necessary to avoid adverse accounting treatment as a result of such delivery;

(iv) if the Option is a Nonstatutory Stock Option, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value on the date of exercise that does not exceed the exercise price, *provided* that (1) such shares used to pay the exercise price will not be exercisable thereafter and (2) any remaining balance of the exercise price not satisfied by such net exercise is paid by the Participant in cash or other permitted form of payment; or

(v) in any other form of consideration that may be acceptable to the Board and permissible under Applicable Law.

(d) Exercise Procedure and Payment of Appreciation Distribution for SARs. In order to exercise any SAR, the Participant must provide notice of exercise to the Plan Administrator in accordance with the SAR Agreement. The appreciation distribution payable to a Participant upon the exercise of a SAR will not be greater than an amount equal to the excess of (i) the aggregate Fair Market Value on the date of exercise of a number of shares of Common Stock equal to the number of Common Stock equivalents that are vested and being exercised under such SAR, over (ii) the strike price of such SAR. Such appreciation distribution may be paid to the Participant in the form of Common Stock or cash (or any combination of Common Stock and cash) or in any other form of payment, as determined by the Board and specified in the SAR Agreement.

(e) Transferability. Options and SARs may not be transferred to third party financial institutions for value. The Board may impose such additional limitations on the transferability of an Option or SAR as it determines. In the absence of any such determination by the Board, the following restrictions on the transferability of Options and SARs will apply, *provided* that except as explicitly provided herein, neither an Option nor a SAR may be transferred for consideration and *provided*, *further*, that if an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer:

(i) Restrictions on Transfer. An Option or SAR will not be transferable, except by will or by the laws of descent and distribution, and will be exercisable during the lifetime of the Participant only by the Participant; *provided*, *however*, that the Board may permit transfer of an Option or SAR in a manner that is not prohibited by applicable tax and securities laws upon the Participant's request, including to a trust if the Participant is considered to be the sole beneficial owner of such trust (as determined under Section 671 of the Code and applicable state law) while such Option or SAR is held in such trust, *provided* that the Participant and the trustee enter into a transfer and other agreements required by the Company.

(ii) Domestic Relations Orders. Notwithstanding the foregoing, subject to the execution of transfer documentation in a format acceptable to the Company and subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to a domestic relations order.

(f) Vesting. The Board may impose such restrictions on or conditions to the vesting and/or exercisability of an Option or SAR as determined by the Board. Except as otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate, vesting of Options and SARs will cease upon termination of the Participant's Continuous Service.

(g) Termination of Continuous Service for Cause. Except as explicitly otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service is terminated for Cause, the Participant's Options and SARs will terminate and be forfeited immediately upon such termination of Continuous Service, and the Participant will be prohibited from exercising any portion (including any vested portion) of such Awards on and after the date of such termination of Continuous Service and the Participant will have no further right, title or interest in such forfeited Award, the shares of Common Stock subject to the forfeited Award, or any consideration in respect of the forfeited Award.

(h) Post-Termination Exercise Period Following Termination of Continuous Service for Reasons Other than Cause. Subject to Section 4 (i), if a Participant's Continuous Service terminates for any reason other than for Cause, the Participant may exercise his or her Option or SAR to the extent vested, but only within the following period of time or, if applicable, such other period of time provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate; *provided*, *however*, that in no event may such Award be exercised after the expiration of its maximum term (as set forth in Section 4(a)):

(i) three months following the date of such termination if such termination is a termination without Cause (other than any termination due to the Participant's Disability or death);

(ii) 12 months following the date of such termination if such termination is due to the Participant's Disability;

(iii) 18 months following the date of such termination if such termination is due to the Participant's death; or

(iv) 18 months following the date of the Participant's death if such death occurs following the date of such termination but during the period such Award is otherwise exercisable (as provided in (i) or (ii) above).

Following the date of such termination, to the extent the Participant does not exercise such Award within the applicable Post-Termination Exercise Period (or, if earlier, prior to the expiration of the maximum term of such Award), such unexercised portion of the Award will terminate, and the Participant will have no further right, title or interest in terminated Award, the shares of Common Stock subject to the terminated Award, or any consideration in respect of the terminated Award.

(i) Restrictions on Exercise; Extension of Exercisability. A Participant may not exercise an Option or SAR at any time that the issuance of shares of Common Stock upon such exercise would violate Applicable Law. Except as otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates for any reason other than for Cause and, at any time during the last thirty days of the applicable Post-Termination Exercise Period: (i) the exercise of the Participant's Option or SAR would be prohibited solely because the issuance of shares of Common Stock upon such exercise would violate Applicable Law, or (ii) the immediate sale of any shares of Common Stock issued upon such exercise would violate the Company's Trading Policy, then the applicable Post-Termination Exercise Period will be extended to the last day of the calendar month that commences following the date the Award would otherwise expire, with an additional extension of the exercise period to the last day of the next calendar month to apply if any of the foregoing restrictions apply at any time during such extended exercise period, generally without limitation as to the maximum permitted number of extensions; *provided*, *however*, that in no event may such Award be exercised after the expiration of its maximum term (as set forth in Section 4(a)).

(j) Non-Exempt Employees. No Option or SAR, whether or not vested, granted to an Employee who is a non-exempt employee for purposes of the Fair Labor Standards Act of 1938, as amended, will be first exercisable for any shares of Common Stock until at least six months following the date of grant of such Award. Notwithstanding the foregoing, in accordance with the provisions of the Worker Economic Opportunity Act, any vested portion of such Award may be exercised earlier than six months following the date of grant of such Award in the event of (i) such Participant's death or Disability, (ii) a Corporate Transaction in which such Award is not assumed, continued or substituted, (iii) a Change in Control, or (iv) such Participant's retirement (as such term may be defined in the Award Agreement or another applicable agreement or, in the absence of any such definition, in accordance with the Company's then current employment policies and guidelines). This Section 4(j) is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay.

(k) Whole Shares. Options and SARs may be exercised only with respect to whole shares of Common Stock or their equivalents.

5. AWARDS OTHER THAN OPTIONS AND STOCK APPRECIATION RIGHTS.

(a) Restricted Stock Awards and RSU Awards. Each Restricted Stock Award and RSU Award will have such terms and conditions as determined by the Board; *provided*, *however*, that each Restricted Stock Award Agreement and RSU Award Agreement will conform (through incorporation of the provisions hereof by reference in the Award Agreement or otherwise) to the substance of each of the following provisions:

(i) Form of Award.

(1) *Restricted Stock Awards*: To the extent consistent with the Company's Bylaws, at the Board's election, shares of Common Stock subject to a Restricted Stock Award may be (i) held in book entry form subject to the Company's instructions until such shares become vested or any other restrictions lapse, or (ii) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. Unless otherwise determined by the Board, a Participant will have voting and other rights as a stockholder of the Company with respect to any shares subject to a Restricted Stock Award.

(2) *RSU Awards*: A RSU Award represents a Participant's right to be issued on a future date the number of shares of Common Stock that is equal to the number of restricted stock units subject to the RSU Award. As a holder of a RSU Award, a Participant is an unsecured creditor of the Company with respect to the Company's unfunded obligation, if any, to issue shares of Common Stock in settlement of such Award and nothing contained in the Plan or any RSU Agreement, and no action taken pursuant to its provisions, will create or be construed to create a trust of any kind or a fiduciary relationship between a Participant and the Company or an Affiliate or any other person. A Participant will not have voting or any other rights as a stockholder of the Company with respect to any RSU Award (unless and until shares are actually issued in settlement of a vested RSU Award).

(ii) Consideration.

(1) ***Restricted Stock Awards***: A Restricted Stock Award may be granted in consideration for (A) cash or check, bank draft or money order payable to the Company, (B) services to the Company or an Affiliate, or (C) any other form of consideration as the Board may determine and permissible under Applicable Law.

(2) ***RSU Awards***: Unless otherwise determined by the Board at the time of grant, a RSU Award will be granted in consideration for the Participant's services to the Company or an Affiliate, such that the Participant will not be required to make any payment to the Company (other than such services) with respect to the grant or vesting of the RSU Award, or the issuance of any shares of Common Stock pursuant to the RSU Award. If, at the time of grant, the Board determines that any consideration must be paid by the Participant (in a form other than the Participant's services to the Company or an Affiliate) upon the issuance of any shares of Common Stock in settlement of the RSU Award, such consideration may be paid in any form of consideration as the Board may determine and permissible under Applicable Law.

(iii) Vesting. The Board may impose such restrictions on or conditions to the vesting of a Restricted Stock Award or RSU Award as determined by the Board. Except as otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate, vesting of Restricted Stock Awards and RSU Awards will cease upon termination of the Participant's Continuous Service.

(iv) Termination of Continuous Service. Except as otherwise provided in the Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates for any reason, (i) the Company may receive through a forfeiture condition or a repurchase right any or all of the shares of Common Stock held by the Participant under his or her Restricted Stock Award that have not vested as of the date of such termination as set forth in the Restricted Stock Award Agreement and the Participant will have no further right, title or interest in the Restricted Stock Award, the shares of Common Stock subject to the Restricted Stock Award, or any consideration in respect of the Restricted Stock Award and (ii) any portion of his or her RSU Award that has not vested will be forfeited upon such termination and the Participant will have no further right, title or interest in the RSU Award, the shares of Common Stock issuable pursuant to the RSU Award, or any consideration in respect of the RSU Award.

(v) Dividends and Dividend Equivalents. Dividends or dividend equivalents may be paid or credited, as applicable, with respect to any shares of Common Stock subject to a Restricted Stock Award or RSU Award, as determined by the Board and specified in the Award Agreement.

(vi) Settlement of RSU Awards. A RSU Award may be settled by the issuance of shares of Common Stock or cash (or any combination thereof) or in any other form of payment, as determined by the Board and specified in the RSU Award Agreement. At the time of grant, the Board may determine to impose such restrictions or conditions that delay such delivery to a date following the vesting of the RSU Award.

(b) Performance Awards. With respect to any Performance Award, the length of any Performance Period, the Performance Goals to be achieved during the Performance Period, the other terms and conditions of such Award, and the measure of whether and to what degree such Performance Goals have been attained will be determined by the Board.

(c) Other Awards. Other Awards may be granted either alone or in addition to Awards provided for under Section 4 and the preceding provisions of this Section 5. Subject to the provisions of the Plan, the Board will have sole and complete discretion to determine the persons to whom and the time or times at which such Other Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Awards and all other terms and conditions of such Other Awards.

6. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS.

(a) Capitalization Adjustments. In the event of a Capitalization Adjustment, the Board shall appropriately and proportionately adjust: (i) the class(es) and maximum number of shares of Common Stock subject to the Plan, (ii) the class(es) and maximum number of shares that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 2(b), and (iii) the class(es) and number of securities and exercise price, strike price or purchase price of Common Stock subject to outstanding Awards. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. Notwithstanding the foregoing, no fractional shares or rights for fractional shares of Common Stock shall be created in order to implement any Capitalization Adjustment. The Board shall determine an appropriate equivalent benefit, if any, for any fractional shares or rights to fractional shares that might be created by the adjustments referred to in the preceding provisions of this Section.

(b) Dissolution or Liquidation. Except as otherwise provided in the Award Agreement, in the event of a dissolution or liquidation of the Company, all outstanding Awards (other than Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Award is providing Continuous Service; *provided*, *however*, that the Board may determine to cause some or all Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) Corporate Transaction. The following provisions will apply to Awards in the event of a Corporate Transaction unless otherwise provided in the instrument evidencing the Award or any other written agreement between the Company or any Affiliate and the Participant or unless otherwise expressly provided by the Board at the time of grant of an Award.

(i) Awards May Be Assumed. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) may assume or continue any or all Awards outstanding under the Plan or may substitute similar awards for Awards outstanding under the Plan (including but not limited to, awards to acquire the same consideration paid to the stockholders of the Company pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Awards may be assigned by the Company to the successor of the Company (or the successor's parent company, if any), in connection with such Corporate Transaction. A surviving corporation or acquiring corporation (or its parent) may choose to assume or continue only a portion of an Award or substitute a similar award for only a portion of an Award, or may choose to assume or continue the Awards held by some, but not all Participants. The terms of any assumption, continuation or substitution will be set by the Board.

(ii) Awards Held by Current Participants. In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue such outstanding Awards or substitute similar awards for such outstanding Awards, then with respect to Awards that have not been assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction (referred to as the "***Current Participants***"), the vesting of such Awards (and, with respect to Options and Stock Appreciation Rights, the time when such Awards may be exercised) will be accelerated in full to a date prior to the effective time of such Corporate Transaction (contingent upon the effectiveness of the Corporate Transaction) as the Board determines (or, if the Board does not determine such a date, to the date that is five days prior to the effective time of the Corporate Transaction), and such Awards will terminate if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and any reacquisition or repurchase rights held by the Company with respect to such Awards will lapse (contingent upon the effectiveness of the Corporate Transaction). With respect to the vesting of Performance Awards that will accelerate upon the occurrence of a Corporate Transaction pursuant to this subsection (ii) and that have multiple vesting levels depending on the level of performance, unless otherwise provided in the Award Agreement, the vesting of such Performance Awards will accelerate at 100% of the target level upon the occurrence of the Corporate Transaction in which the Awards are not assumed in accordance with Section 6(c)(i). With respect to the vesting of Awards that will accelerate upon the occurrence of a Corporate Transaction pursuant to this subsection (ii) and are settled in the form of a cash payment, such cash payment will be made no later than 30 days following the occurrence of the Corporate Transaction or such later date as required to comply with Section 409A of the Code.

(iii) Awards Held by Persons other than Current Participants. In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue such outstanding Awards or substitute similar awards for such outstanding Awards, then with respect to Awards that have not been assumed, continued or substituted and that are held by persons other than Current Participants, such Awards will terminate if not exercised (if applicable) prior to the occurrence of the Corporate Transaction; *provided*, *however*, that any reacquisition or repurchase rights held by the Company with respect to such Awards will not terminate and may continue to be exercised notwithstanding the Corporate Transaction.

(iv) Payment for Awards in Lieu of Exercise. Notwithstanding the foregoing, in the event an Award will terminate if not exercised prior to the effective time of a Corporate Transaction, the Board may provide, in its sole discretion, that the holder of such Award may not exercise such Award but will receive a payment, in such form as may be determined by the Board, equal in value, at the effective time, to the excess, if any, of (1) the value of the property the Participant would have received upon the exercise of the Award (including, at the discretion of the Board, any unvested portion of such Award), over (2) any exercise price payable by such holder in connection with such exercise.

(d) Appointment of Stockholder Representative. As a condition to the receipt of an Award under this Plan, a Participant will be deemed to have agreed that the Award will be subject to the terms of any agreement governing a Corporate Transaction involving the Company, including, without limitation, a provision for the appointment of a stockholder representative that is authorized to act on the Participant's behalf with respect to any escrow, indemnities and any contingent consideration.

(e) No Restriction on Right to Undertake Transactions. The grant of any Award under the Plan and the issuance of shares pursuant to any Award does not affect or restrict in any way the right or power of the Company or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, any merger or consolidation of the Company, any issue of stock or of options, rights or options to purchase stock or of bonds, debentures, preferred or prior preference stocks whose rights are superior to or affect the Common Stock or the rights thereof or which are convertible into or exchangeable for Common Stock, or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

7. ADMINISTRATION.

(a) Administration by Board. The Board will administer the Plan unless and until the Board delegates administration of the Plan to a Committee or Committees, as provided in subsection (c) below.

(b) Powers of Board. The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine from time to time: (1) which of the persons eligible under the Plan will be granted Awards; (2) when and how each Award will be granted; (3) what type or combination of types of Award will be granted; (4) the provisions of each Award granted (which need not be identical), including the time or times when a person will be permitted to receive an issuance of Common Stock or other payment pursuant to an Award; (5) the number of shares of Common Stock or cash equivalent with respect to which an Award will be granted to each such person; (6) the Fair Market Value applicable to an Award; and (7) the terms of any Performance Award that is not valued in whole or in part by reference to, or otherwise based on, the Common Stock, including the amount of cash payment or other property that may be earned and the timing of payment.

(ii) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Award Agreement, in a manner and to the extent it deems necessary or expedient to make the Plan or Award fully effective.

(iii) To settle all controversies regarding the Plan and Awards granted under it.

(iv) To accelerate the time at which an Award may first be exercised or the time during which an Award or any part thereof will vest, notwithstanding the provisions in the Award Agreement stating the time at which it may first be exercised or the time during which it will vest.

(v) To prohibit the exercise of any Option, SAR or other exercisable Award during a period of up to 30 days prior to the consummation of any pending stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the shares of Common Stock or the share price of the Common Stock including any Corporate Transaction, for reasons of administrative convenience.

(vi) To suspend or terminate the Plan at any time. Suspension or termination of the Plan will not Materially Impair rights and obligations under any Award granted while the Plan is in effect except with the written consent of the affected Participant.

(vii) To amend the Plan in any respect the Board deems necessary or advisable; *provided*, *however*, that stockholder approval will be required for any amendment to the extent required by Applicable Law. Except as provided above, rights under any Award granted before amendment of the Plan will not be Materially Impaired by any amendment of the Plan unless (1) the Company requests the consent of the affected Participant, and (2) such Participant consents in writing.

(viii) To submit any amendment to the Plan for stockholder approval.

(ix) To approve forms of Award Agreements for use under the Plan and to amend the terms of any one or more Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; *provided however*, that, a Participant's rights under any Award will not be Materially Impaired by any such amendment unless (1) the Company requests the consent of the affected Participant, and (2) such Participant consents in writing.

(x) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan or Awards.

(xi) To adopt such procedures and sub-plans as are necessary or appropriate to permit and facilitate participation in the Plan by, or take advantage of specific tax treatment for Awards granted to, Employees, Directors or Consultants who are foreign nationals or employed outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Award Agreement to ensure or facilitate compliance with the laws of the relevant foreign jurisdiction).

(xii) To effect, at any time and from time to time, subject to the consent of any Participant whose Award is Materially Impaired by such action, (1) the reduction of the exercise price (or strike price) of any outstanding Option or SAR; (2) the cancellation of any outstanding Option or SAR and the grant in substitution therefor of (A) a new Option, SAR, Restricted Stock Award, RSU Award or Other Award, under the Plan or another equity plan of the Company, covering the same or a different number of shares of Common Stock, (B) cash and/or (C) other valuable consideration (as determined by the Board); or (3) any other action that is treated as a repricing under generally accepted accounting principles.

(c) Delegation to Committee.

(i) General. The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to another Committee or a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. Each Committee may retain the authority to concurrently administer the Plan with Committee or subcommittee to which it has delegated its authority hereunder and may, at any time, revest in such Committee some or all of the powers previously delegated. The Board may retain the authority to concurrently administer the Plan with any Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

(ii) Rule 16b-3 Compliance. To the extent an Award is intended to qualify for the exemption from Section 16(b) of the Exchange Act that is available under Rule 16b-3 of the Exchange Act, the Award will be granted by the Board or a Committee that consists solely of two or more Non-Employee Directors, as determined under Rule 16b-3(b)(3) of the Exchange Act and thereafter any action establishing or modifying the terms of the Award will be approved by the Board or a Committee meeting such requirements to the extent necessary for such exemption to remain available.

(d) Effect of Board's Decision. All determinations, interpretations and constructions made by the Board or any Committee in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

(e) Delegation to an Officer. The Board or any Committee may delegate to one or more Officers the authority to do one or both of the following (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by Applicable Law, other types of Awards) and, to the extent permitted by Applicable Law, the terms thereof, and (ii) determine the number of shares of Common Stock to be subject to such Awards granted to such Employees; *provided*, *however*, that the resolutions or charter adopted by the Board or any Committee evidencing such delegation will specify the total number of shares of Common Stock that may be subject to the Awards granted by such Officer and that such Officer may not grant an Award to himself or herself. Any such Awards will be granted on the applicable form of Award Agreement most recently approved for use by the Board or the Committee, unless otherwise provided in the resolutions approving the delegation authority. Notwithstanding anything to the contrary herein, neither the Board nor any Committee may delegate to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) the authority to determine the Fair Market Value.

8. TAX WITHHOLDING

(a) Withholding Authorization. As a condition to acceptance of any Award under the Plan, a Participant authorizes withholding from payroll and any other amounts payable to such Participant, and otherwise agree to make adequate provision for (including), any sums required to satisfy any U.S. federal, state, local and/or foreign tax or social insurance contribution withholding obligations of the Company or an Affiliate, if any, which arise in connection with the exercise, vesting or settlement of such Award, as applicable. Accordingly, a Participant may not be able to exercise an Award even though the Award is vested, and the Company shall have no obligation to issue shares of Common Stock subject to an Award, unless and until such obligations are satisfied.

(b) Satisfaction of Withholding Obligation. To the extent permitted by the terms of an Award Agreement, the Company may, in its sole discretion, satisfy any U.S. federal, state, local and/or foreign tax or social insurance withholding obligation relating to an Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Award; (iii) withholding cash from an Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; (v) by allowing a Participant to effectuate a "cashless exercise" pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board, or (vi) by such other method as may be set forth in the Award Agreement.

(c) No Obligation to Notify or Minimize Taxes; No Liability to Claims. Except as required by Applicable Law the Company has no duty or obligation to any Participant to advise such holder as to the time or manner of exercising such Award. Furthermore, the Company has no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of an Award or a possible period in which the Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of an Award to the holder of such Award and will not be liable to any holder of an Award for any adverse tax consequences to such holder in connection with an Award. As a condition to accepting an Award under the Plan, each Participant (i) agrees to not make any claim against the Company, or any of its Officers, Directors, Employees or Affiliates related to tax liabilities arising from such Award or other Company compensation and (ii) acknowledges that such Participant was advised to consult with his or her own personal tax, financial and other legal advisors regarding the tax consequences of the Award and has either done so or knowingly and voluntarily declined to do so. Additionally, each Participant acknowledges any Option or SAR granted under the Plan is exempt from Section 409A only if the exercise or strike price is at least equal to the "fair market value" of the Common Stock on the date of grant as determined by the Internal Revenue Service and there is no other impermissible deferral of compensation associated with the Award. Additionally, as a condition to accepting an Option or SAR granted under the Plan, each Participant agrees not make any claim against the Company, or any of its Officers, Directors, Employees or Affiliates in the event that the Internal Revenue Service asserts that such exercise price or strike price is less than the "fair market value" of the Common Stock on the date of grant as subsequently determined by the Internal Revenue Service.

(d) Withholding Indemnification. As a condition to accepting an Award under the Plan, in the event that the amount of the Company's and/or its Affiliate's withholding obligation in connection with such Award was greater than the amount actually withheld by the Company and/or its Affiliates, each Participant agrees to indemnify and hold the Company and/or its Affiliates harmless from any failure by the Company and/or its Affiliates to withhold the proper amount.

9. MISCELLANEOUS.

(a) Source of Shares. The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

(b) Use of Proceeds from Sales of Common Stock. Proceeds from the sale of shares of Common Stock pursuant to Awards will constitute general funds of the Company.

(c) Corporate Action Constituting Grant of Awards. Corporate action constituting a grant by the Company of an Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action approving the grant contain terms (e.g., exercise price, vesting schedule or number of shares) that are inconsistent with those in the Award Agreement or related grant documents as a result of a clerical error in the Award Agreement or related grant documents, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Agreement or related grant documents.

(d) Stockholder Rights. No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to such Award unless and until (i) such Participant has satisfied all requirements for exercise of the Award pursuant to its terms, if applicable, and (ii) the issuance of the Common Stock subject to such Award is reflected in the records of the Company.

(e) No Employment or Other Service Rights. Nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or affect the right of the Company or an Affiliate to terminate at will and without regard to any future vesting opportunity that a Participant may have with respect to any Award (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the Bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state or foreign jurisdiction in which the Company or the Affiliate is incorporated, as the case may be. Further, nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award will constitute any promise or commitment by the Company or an Affiliate regarding the fact or nature of future positions, future work assignments, future compensation or any other term or condition of employment or service or confer any right or benefit under the Award or the Plan unless such right or benefit has specifically accrued under the terms of the Award Agreement and/or Plan.

(f) Change in Time Commitment. In the event a Participant's regular level of time commitment in the performance of his or her services for the Company and any Affiliates is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee or takes an extended leave of absence) after the date of grant of any Award to the Participant, the Board may determine, to the extent permitted by Applicable Law, to (i) make a corresponding reduction in the number of shares or cash amount subject to any portion of such Award that is scheduled to vest or become payable after the date of such change in time commitment, and (ii) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Award that is so reduced or extended.

(g) Execution of Additional Documents. As a condition to accepting an Award under the Plan, the Participant agrees to execute any additional documents or instruments necessary or desirable, as determined in the Plan Administrator's sole discretion, to carry out the purposes or intent of the Award, or facilitate compliance with securities and/or other regulatory requirements, in each case at the Plan Administrator's request.

(h) Electronic Delivery and Participation. Any reference herein or in an Award Agreement to a "written" agreement or document will include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto) or posted on the Company's intranet (or other shared electronic medium controlled by the Company to which the Participant has access). By accepting any Award the Participant consents to receive documents by electronic delivery and to participate in the Plan through any on-line electronic system established and maintained by the Plan Administrator or another third party selected by the Plan Administrator. The form of delivery of any Common Stock (e.g., a stock certificate or electronic entry evidencing such shares) shall be determined by the Company.

(i) Clawback/Recovery. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other Applicable Law and any clawback policy that the Company otherwise adopts, to the extent applicable and permissible under Applicable Law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Agreement as the Board determines necessary or appropriate, including but not limited to a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a Participant's right to voluntary terminate employment upon a "resignation for good reason," or for a "constructive termination" or any similar term under any plan of or agreement with the Company.

(j) Securities Law Compliance. A Participant will not be issued any shares in respect of an Award unless either (i) the shares are registered under the Securities Act; or (ii) the Company has determined that such issuance would be exempt from the registration requirements of the Securities Act. Each Award also must comply with other Applicable Law governing the Award, and a Participant will not receive such shares if the Company determines that such receipt would not be in material compliance with Applicable Law.

(k) Transfer or Assignment of Awards; Issued Shares. Except as expressly provided in the Plan or the form of Award Agreement, Awards granted under the Plan may not be transferred or assigned by the Participant. After the vested shares subject to an Award have been issued, or in the case of Restricted Stock and similar awards, after the issued shares have vested, the holder of such shares is free to assign, hypothecate, donate, encumber or otherwise dispose of any interest in such shares provided that any such actions are in compliance with the provisions herein, the terms of the Trading Policy and Applicable Law.

(l) Effect on Other Employee Benefit Plans. The value of any Award granted under the Plan, as determined upon grant, vesting or settlement, shall not be included as compensation, earnings, salaries, or other similar terms used when calculating any Participant's benefits under any employee benefit plan sponsored by the Company or any Affiliate, except as such plan otherwise expressly provides. The Company expressly reserves its rights to amend, modify, or terminate any of the Company's or any Affiliate's employee benefit plans.

(m) Deferrals. To the extent permitted by Applicable Law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may also establish programs and procedures for deferral elections to be made by Participants. Deferrals will be made in accordance with the requirements of Section 409A.

(n) Section 409A. Unless otherwise expressly provided for in an Award Agreement, the Plan and Award Agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A, and, to the extent not so exempt, in compliance with the requirements of Section 409A. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A, the Award Agreement evidencing such Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and to the extent an Award Agreement is silent on terms necessary for compliance, such terms are hereby incorporated by reference into the Award Agreement. Notwithstanding anything to the contrary in this Plan (and unless the Award Agreement specifically provides otherwise), if the shares of Common Stock are publicly traded, and if a Participant holding an Award that constitutes "deferred compensation" under Section 409A is a "specified employee" for purposes of Section 409A, no distribution or payment of any amount that is due because of a "separation from service" (as defined in Section 409A without regard to alternative definitions thereunder) will be issued or paid before the date that is six months and one day following the date of such Participant's "separation from service" or, if earlier, the date of the Participant's death, unless such distribution or payment can be made in a manner that complies with Section 409A, and any amounts so deferred will be paid in a lump sum on the day after such six month period elapses, with the balance paid thereafter on the original schedule.

(o) Choice of Law. This Plan and any controversy arising out of or relating to this Plan shall be governed by, and construed in accordance with, the internal laws of the State of Delaware, without regard to conflict of law principles that would result in any application of any law other than the law of the State of Delaware.

10. COVENANTS OF THE COMPANY.

(a) Compliance with Law. The Company will seek to obtain from each regulatory commission or agency, as may be deemed to be necessary, having jurisdiction over the Plan such authority as may be required to grant Awards and to issue and sell shares of Common Stock upon exercise or vesting of the Awards; *provided*, *however*, that this undertaking will not require the Company to register under the Securities Act the Plan, any Award or any Common Stock issued or issuable pursuant to any such Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary or advisable for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise or vesting of such Awards unless and until such authority is obtained. A Participant is not eligible for the grant of an Award or the subsequent issuance of Common Stock pursuant to the Award if such grant or issuance would be in violation of any Applicable Law.

11. ADDITIONAL RULES FOR AWARDS SUBJECT TO SECTION 409A.

(a) Application. Unless the provisions of this Section of the Plan are expressly superseded by the provisions in the form of Award Agreement, the provisions of this Section shall apply and shall supersede anything to the contrary set forth in the Award Agreement for a Non-Exempt Award.

(b) Non-Exempt Awards Subject to Non-Exempt Severance Arrangements. To the extent a Non- Exempt Award is subject to Section 409A due to application of a Non-Exempt Severance Arrangement, the following provisions of this subsection (b) apply.

(i) If the Non-Exempt Award vests in the ordinary course during the Participant's Continuous Service in accordance with the vesting schedule set forth in the Award Agreement, and does not accelerate vesting under the terms of a Non-Exempt Severance Arrangement, in no event will the shares be issued in respect of such Non-Exempt Award any later than the later of: (i) December 31st of the calendar year that includes the applicable vesting date, or (ii) the 60th day that follows the applicable vesting date.

(ii) If vesting of the Non-Exempt Award accelerates under the terms of a Non-Exempt Severance Arrangement in connection with the Participant's Separation from Service, and such vesting acceleration provisions were in effect as of the date of grant of the Non-Exempt Award and, therefore, are part of the terms of such Non-Exempt Award as of the date of grant, then the shares will be earlier issued in settlement of such Non-Exempt Award upon the Participant's Separation from Service in accordance with the terms of the Non-Exempt Severance Arrangement, but in no event later than the 60th day that follows the date of the Participant's Separation from Service. However, if at the time the shares would otherwise be issued the Participant is subject to the distribution limitations contained in Section 409A applicable to "specified employees," as defined in Section 409A(a)(2)(B)(i) of the Code, such shares shall not be issued before the date that is six months following the date of such Participant's Separation from Service, or, if earlier, the date of the Participant's death that occurs within such six month period.

(iii) If vesting of a Non-Exempt Award accelerates under the terms of a Non-Exempt Severance Arrangement in connection with a Participant's Separation from Service, and such vesting acceleration provisions were not in effect as of the date of grant of the Non-Exempt Award and, therefore, are not a part of the terms of such Non-Exempt Award on the date of grant, then such acceleration of vesting of the Non-Exempt Award shall not accelerate the issuance date of the shares, but the shares shall instead be issued on the same schedule as set forth in the Grant Notice as if they had vested in the ordinary course during the Participant's Continuous Service, notwithstanding the vesting acceleration of the Non-Exempt Award. Such issuance schedule is intended to satisfy the requirements of payment on a specified date or pursuant to a fixed schedule, as provided under Treasury Regulations Section 1.409A-3(a)(4).

(c) Treatment of Non-Exempt Awards Upon a Corporate Transaction for Employees and Consultants. The provisions of this subsection (c) shall apply and shall supersede anything to the contrary set forth in the Plan with respect to the permitted treatment of any Non-Exempt Award in connection with a Corporate Transaction if the Participant was either an Employee or Consultant upon the applicable date of grant of the Non- Exempt Award.

(i) Vested Non-Exempt Awards. The following provisions shall apply to any Vested Non- Exempt Award in connection with a Corporate Transaction:

(1) If the Corporate Transaction is also a Section 409A Change in Control then the Acquiring Entity may not assume, continue or substitute the Vested Non-Exempt Award. Upon the Section 409A Change in Control the settlement of the Vested Non-Exempt Award will automatically be accelerated and the shares will be immediately issued in respect of the Vested Non-Exempt Award. Alternatively, the Company may instead provide that the Participant will receive a cash settlement equal to the Fair Market Value of the shares that would otherwise be issued to the Participant upon the Section 409A Change in Control.

(2) If the Corporate Transaction is not also a Section 409A Change in Control, then the Acquiring Entity must either assume, continue or substitute each Vested Non-Exempt Award. The shares to be issued in respect of the Vested Non-Exempt Award shall be issued to the Participant by the Acquiring Entity on the same schedule that the shares would have been issued to the Participant if the Corporate Transaction had not occurred. In the Acquiring Entity's discretion, in lieu of an issuance of shares, the Acquiring Entity may instead substitute a cash payment on each applicable issuance date, equal to the Fair Market Value of the shares that would otherwise be issued to the Participant on such issuance dates, with the determination of the Fair Market Value of the shares made on the date of the Corporate Transaction.

(ii) Unvested Non-Exempt Awards. The following provisions shall apply to any Unvested Non-Exempt Award unless otherwise determined by the Board pursuant to subsection (e) of this Section.

(1) In the event of a Corporate Transaction, the Acquiring Entity shall assume, continue or substitute any Unvested Non-Exempt Award. Unless otherwise determined by the Board, any Unvested Non-Exempt Award will remain subject to the same vesting and forfeiture restrictions that were applicable to the Award prior to the Corporate Transaction. The shares to be issued in respect of any Unvested Non-Exempt Award shall be issued to the Participant by the Acquiring Entity on the same schedule that the shares would have been issued to the Participant if the Corporate Transaction had not occurred. In the Acquiring Entity's discretion, in lieu of an issuance of shares, the Acquiring Entity may instead substitute a cash payment on each applicable issuance date, equal to the Fair Market Value of the shares that would otherwise be issued to the Participant on such issuance dates, with the determination of Fair Market Value of the shares made on the date of the Corporate Transaction.

(2) If the Acquiring Entity will not assume, substitute or continue any Unvested Non- Exempt Award in connection with a Corporate Transaction, then such Award shall automatically terminate and be forfeited upon the Corporate Transaction with no consideration payable to any Participant in respect of such forfeited Unvested Non-Exempt Award. Notwithstanding the foregoing, to the extent permitted and in compliance with the requirements of Section 409A, the Board may in its discretion determine to elect to accelerate the vesting and settlement of the Unvested Non-Exempt Award upon the Corporate Transaction, or instead substitute a cash payment equal to the Fair Market Value of such shares that would otherwise be issued to the Participant, as further provided in subsection (e)(ii) below. In the absence of such discretionary election by the Board, any Unvested Non-Exempt Award shall be forfeited without payment of any consideration to the affected Participants if the Acquiring Entity will not assume, substitute or continue the Unvested Non-Exempt Awards in connection with the Corporate Transaction.

(3) The foregoing treatment shall apply with respect to all Unvested Non-Exempt Awards upon any Corporate Transaction, and regardless of whether or not such Corporate Transaction is also a Section 409A Change in Control.

(d) Treatment of Non-Exempt Awards Upon a Corporate Transaction for Non-Employee Directors. The following provisions of this subsection (d) shall apply and shall supersede anything to the contrary that may be set forth in the Plan with respect to the permitted treatment of a Non-Exempt Director Award in connection with a Corporate Transaction.

(i) If the Corporate Transaction is also a Section 409A Change in Control then the Acquiring Entity may not assume, continue or substitute the Non-Exempt Director Award. Upon the Section 409A Change in Control the vesting and settlement of any Non-Exempt Director Award will automatically be accelerated and the shares will be immediately issued to the Participant in respect of the Non-Exempt Director Award. Alternatively, the Company may provide that the Participant will instead receive a cash settlement equal to the Fair Market Value of the shares that would otherwise be issued to the Participant upon the Section 409A Change in Control pursuant to the preceding provision.

(ii) If the Corporate Transaction is not also a Section 409A Change in Control, then the Acquiring Entity must either assume, continue or substitute the Non-Exempt Director Award. Unless otherwise determined by the Board, the Non-Exempt Director Award will remain subject to the same vesting and forfeiture restrictions that were applicable to the Award prior to the Corporate Transaction. The shares to be issued in respect of the Non-Exempt Director Award shall be issued to the Participant by the Acquiring Entity on the same schedule that the shares would have been issued to the Participant if the Corporate Transaction had not occurred. In the Acquiring Entity's discretion, in lieu of an issuance of shares, the Acquiring Entity may instead substitute a cash payment on each applicable issuance date, equal to the Fair Market Value of the shares that would otherwise be issued to the Participant on such issuance dates, with the determination of Fair Market Value made on the date of the Corporate Transaction.

(e) If the RSU Award is a Non-Exempt Award, then the provisions in this Section 11(e) shall apply and supersede anything to the contrary that may be set forth in the Plan or the Award Agreement with respect to the permitted treatment of such Non-Exempt Award:

(i) Any exercise by the Board of discretion to accelerate the vesting of a Non-Exempt Award shall not result in any acceleration of the scheduled issuance dates for the shares in respect of the Non-Exempt Award unless earlier issuance of the shares upon the applicable vesting dates would be in compliance with the requirements of Section 409A.

(ii) The Company explicitly reserves the right to earlier settle any Non-Exempt Award to the extent permitted and in compliance with the requirements of Section 409A, including pursuant to any of the exemptions available in Treasury Regulations Section 1.409A-3(j)(4)(ix).

(iii) To the extent the terms of any Non-Exempt Award provide that it will be settled upon a Change in Control or Corporate Transaction, to the extent it is required for compliance with the requirements of Section 409A, the Change in Control or Corporate Transaction event triggering settlement must also constitute a Section 409A Change in Control. To the extent the terms of a Non-Exempt Award provides that it will be settled upon a termination of employment or termination of Continuous Service, to the extent it is required for compliance with the requirements of Section 409A, the termination event triggering settlement must also constitute a Separation From Service. However, if at the time the shares would otherwise be issued to a Participant in connection with a "separation from service" such Participant is subject to the distribution limitations contained in Section 409A applicable to "specified employees," as defined in Section 409A(a)(2)(B)(i) of the Code, such shares shall not be issued before the date that is six months following the date of the Participant's Separation From Service, or, if earlier, the date of the Participant's death that occurs within such six month period.

(iv) The provisions in this subsection (e) for delivery of the shares in respect of the settlement of a RSU Award that is a Non-Exempt Award are intended to comply with the requirements of Section 409A so that the delivery of the shares to the Participant in respect of such Non-Exempt Award will not trigger the additional tax imposed under Section 409A, and any ambiguities herein will be so interpreted.

12. SEVERABILITY.

If all or any part of the Plan or any Award Agreement is declared by any court or governmental authority to be unlawful or invalid, such unlawfulness or invalidity shall not invalidate any portion of the Plan or such Award Agreement not declared to be unlawful or invalid. Any Section of the Plan or any Award Agreement (or part of such a Section) so declared to be unlawful or invalid shall, if possible, be construed in a manner which will give effect to the terms of such Section or part of a Section to the fullest extent possible while remaining lawful and valid.

13. TERMINATION OF THE PLAN.

The Board may suspend or terminate the Plan at any time. No Incentive Stock Options may be granted after the tenth anniversary of the earlier of: (i) the Adoption Date, or (ii) the date the Plan is approved by the Company's stockholders. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

14. DEFINITIONS.

As used in the Plan, the following definitions apply to the capitalized terms indicated below:

(a) "***Acquiring Entity***" means the surviving or acquiring corporation (or its parent company) in connection with a Corporate Transaction.

(b) "***Adoption Date***" means the date the Plan is first approved by the Board or Compensation Committee.

(c) "***Affiliate***" means, at the time of determination, any "parent" or "subsidiary" of the Company as such terms are defined in Rule 405 promulgated under the Securities Act. The Board may determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(d) "***Applicable Law***" means any applicable securities, federal, state, foreign, material local or municipal or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, listing rule, regulation, judicial decision, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Body (including under the authority of any applicable self-regulating organization such as the Nasdaq Stock Market, New York Stock Exchange, or the Financial Industry Regulatory Authority).

(e) "***Award***" means any right to receive Common Stock, cash or other property granted under the Plan (including an Incentive Stock Option, a Nonstatutory Stock Option, a Restricted Stock Award, a RSU Award, a SAR, a Performance Award or any Other Award).

(f) "***Award Agreement***" means a written or electronic agreement between the Company and a Participant evidencing the terms and conditions of an Award. The Award Agreement generally consists of the Grant Notice and the agreement containing the written summary of the general terms and conditions applicable to the Award and which is provided, including through electronic means, to a Participant along with the Grant Notice.

(g) "***Board***" means the Board of Directors of the Company (or its designee). Any decision or determination made by the Board shall be a decision or determination that is made in the sole discretion of the Board (or its designee), and such decision or determination shall be final and binding on all Participants.

(h) *"**Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Award after the date the Plan is adopted by the Board without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(i) "***Cause***" has the meaning ascribed to such term in any written agreement between a Participant and the Company defining such term and, in the absence of such agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) the Participant's dishonest statements or acts with respect to the Company or any Affiliate of the Company, or any current or prospective customers, suppliers, vendors or other third parties with which such entity does business; (ii) the Participant's commission of (A) a felony or (B) any misdemeanor involving moral turpitude, deceit, dishonesty or fraud; (iii) the Participant's failure to perform the Participant's assigned duties and responsibilities to the reasonable satisfaction of the Company which failure continues, in the reasonable judgment of the Company, after written notice given to the Participant by the Company; (iv) the Participant's gross negligence, willful misconduct or insubordination with respect to the Company or any affiliate of the Company; or (v) the Participant's material violation of any provision of any agreement(s) between the Participant and the Company relating to noncompetition, nonsolicitation, nondisclosure and/or assignment of inventions. The determination that a termination of the Participant's Continuous Service is either for Cause or without Cause will be made by the Board with respect to Participants who are executive officers of the Company and by the Company's Chief Executive Officer with respect to Participants who are not executive officers of the Company. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(j) "***Change in Control***" or "***Change of Control***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control shall not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities, or (C) solely because the level of Ownership held by any Exchange Act Person (the "***Subject Person***") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, *provided* that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control shall be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than 50% of the combined outstanding voting power of the Acquiring Entity in such merger, consolidation or similar transaction or (B) more than 50% of the combined outstanding voting power of the parent of the Acquiring Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than 50% of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(iv) individuals who, on the date the Plan is adopted by the Board, are members of the Board (the "***Incumbent Board***") cease for any reason to constitute at least a majority of the members of the Board; *provided*, *however*, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing or any other provision of this Plan, (A) the term Change in Control shall not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, (B) the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant shall supersede the foregoing definition with respect to Awards subject to such agreement; *provided*, *however*, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition shall apply, and (C) respect to any nonqualified deferred compensation that becomes payable on account of the Change in Control, the transaction or event described in clause (i), (ii), (iii), (iv) or (v) also constitutes a Section 409A Change in Control if required in order for the payment not to violate Section 409A of the Code.

(k) "***Code***" means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(l) "***Committee***" means the Compensation Committee and any other committee of one or more Directors to whom authority has been delegated by the Board or Compensation Committee in accordance with the Plan.

(m) "***Common Stock***" means the common stock of the Company.

(n) "***Company***" means Palisade Bio, Inc., a Delaware corporation.

(o) "***Compensation Committee***" means the Compensation Committee of the Board.

(p) "***Consultant***" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan. Notwithstanding the foregoing, a person is treated as a Consultant under this Plan only if a Form S-8 Registration Statement under the Securities Act is available to register either the offer or the sale of the Company's securities to such person.

(q) "***Continuous Service***" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Director or Consultant or a change in the Entity for which the Participant renders such service, *provided* that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service; *provided*, *however*, that if the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will not constitute an interruption of Continuous Service. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board or chief executive officer, including sick leave, military leave or any other personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. Notwithstanding the foregoing, a leave of absence will be treated as Continuous Service for purposes of vesting in an Award only to such extent as may be provided in the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law. In addition, to the extent required for exemption from or compliance with Section 409A, the determination of whether there has been a termination of Continuous Service will be made, and such term will be construed, in a manner that is consistent with the definition of "separation from service" as defined under Treasury Regulation Section 1.409A-1(h) (without regard to any alternative definition thereunder).

(r) "***Corporate Transaction***" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least 50% of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(v) Notwithstanding the foregoing or any other provision of this Plan, (A) the term Corporate Transaction shall not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, (B) the definition of Corporate Transaction (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant shall supersede the foregoing definition with respect to Awards subject to such agreement; provided, however, that if no definition of Corporate Transaction or any analogous term is set forth in such an individual written agreement, the foregoing definition shall apply, and (C) respect to any nonqualified deferred compensation that becomes payable on account of the Corporate Transaction, the transaction or event described in clause (i), (ii), (iii), (iv) or (v) also constitutes a Section 409A Change in Control if required in order for the payment not to violate Section 409A of the Code.

(s) "***Director***" means a member of the Board.

(t) "***determine***" ***or*** "***determined***" means as determined by the Board or the Committee (or its designee) in its sole discretion.

(u) "***Disability***" means, with respect to a Participant, such Participant is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months, as provided in Section 22(e)(3) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(v) "***Effective Date***" April 27, 2021.

(w) "***Employee***" means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(x) "***Employer***" means the Company or the Affiliate of the Company that employs the Participant.

(y) "***Entity***" means a corporation, partnership, limited liability company or other entity.

(z) "***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(aa) "***Exchange Act Person***" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to a registered public offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities.

(bb) "***Fair Market Value***" means, as of any date, unless otherwise determined by the Board, the value of the Common Stock (as determined on a per share or aggregate basis, as applicable) determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value will be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) If there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, or if otherwise determined by the Board, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

(cc) "***Governmental Body***" means any: (a) nation, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; (c) governmental or regulatory body, or quasi-governmental body of any nature (including any governmental division, department, administrative agency or bureau, commission, authority, instrumentality, official, ministry, fund, foundation, center, organization, unit, body or Entity and any court or other tribunal, and for the avoidance of doubt, any Tax authority) or other body exercising similar powers or authority; or (d) self-regulatory organization (including the Nasdaq Stock Market, New York Stock Exchange, and the Financial Industry Regulatory Authority).

(dd) "***Grant Notice***" means the notice provided to a Participant that he or she has been granted an Award under the Plan and which includes the name of the Participant, the type of Award, the date of grant of the Award, number of shares of Common Stock subject to the Award or potential cash payment right, (if any), the vesting schedule for the Award (if any) and other key terms applicable to the Award.

(ee) "***Incentive Stock Option***" means an option granted pursuant to Section 4 of the Plan that is intended to be, and qualifies as, an "incentive stock option" within the meaning of Section 422 of the Code.

(ff) "***Materially Impair***" means any amendment to the terms of the Award that materially adversely affects the Participant's rights under the Award. A Participant's rights under an Award will not be deemed to have been Materially Impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights. For example, the following types of amendments to the terms of an Award do not Materially Impair the Participant's rights under the Award: (i) imposition of reasonable restrictions on the minimum number of shares subject to an Option or SAR that may be exercised, (ii) to maintain the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code; (iii) to change the terms of an Incentive Stock Option in a manner that disqualifies, impairs or otherwise affects the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code; (iv) to clarify the manner of exemption from, or to bring the Award into compliance with or qualify it for an exemption from, Section 409A; or (v) to comply with other Applicable Laws.

(gg) "***Non-Employee Director***" means a Director who either (i) is not a current employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act ("***Regulation S-K***")), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a "non-employee director" for purposes of Rule 16b-3.

(hh) "***Non-Exempt Award***" means any Award that is subject to, and not exempt from, Section 409A, including as the result of (i) a deferral of the issuance of the shares subject to the Award which is elected by the Participant or imposed by the Company or (ii) the terms of any Non-Exempt Severance Agreement.

(ii) "***Non-Exempt Director Award***" means a Non-Exempt Award granted to a Participant who was a Director but not an Employee on the applicable grant date.

(jj) ***Non-Exempt Severance Arrangement*** means a severance arrangement or other agreement between the Participant and the Company that provides for acceleration of vesting of an Award and issuance of the shares in respect of such Award upon the Participant's termination of employment or separation from service (as such term is defined in Section 409A(a)(2)(A)(i) of the Code (and without regard to any alternative definition thereunder) ("***Separation from Service***") and such severance benefit does not satisfy the requirements for an exemption from application of Section 409A provided under Treasury Regulations Section 1.409A-1(b)(4), 1.409A-1(b)(9) or otherwise.

(kk) "***Nonstatutory Stock Option***" means any option granted pursuant to Section 4 of the Plan that does not qualify as an Incentive Stock Option.

(ll) "***Officer***" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act.

(mm) "***Option***" means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(nn) "***Option Agreement***" means a written or electronic agreement between the Company and the Optionholder evidencing the terms and conditions of the Option grant. The Option Agreement includes the Grant Notice for the Option and the agreement containing the written summary of the general terms and conditions applicable to the Option and which is provided, including through electronic means, to a Participant along with the Grant Notice. Each Option Agreement will be subject to the terms and conditions of the Plan.

(oo) "***Optionholder***" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(pp) "***Other Award***" means an award valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof (e.g., options or stock rights with an exercise price or strike price less than 100% of the Fair Market Value at the time of grant) that is not an Incentive Stock Options, Nonstatutory Stock Option, SAR, Restricted Stock Award, RSU Award or Performance Award.

(qq) "***Other Award Agreement***" means a written or electronic agreement between the Company and a holder of an Other Award evidencing the terms and conditions of an Other Award grant. Each Other Award Agreement will be subject to the terms and conditions of the Plan.

(rr) "***Own,***" "***Owned,***" "***Owner,***" "***Ownership***" means that a person or Entity will be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(ss) "***Participant***" means an Employee, Director or Consultant to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Award.

(tt) "***Performance Award***" means an Award that may vest or may be exercised or a cash award that may vest or become earned and paid contingent upon the attainment during a Performance Period of certain Performance Goals and which is granted under the terms and conditions of Section 5(b) pursuant to such terms as are approved by the Board. In addition, to the extent permitted by Applicable Law and set forth in the applicable Award Agreement, the Board may determine that cash or other property may be used in payment of Performance Awards. Performance Awards that are settled in cash or other property are not required to be valued in whole or in part by reference to, or otherwise based on, the Common Stock.

(uu) "***Performance Criteria***" means the one or more criteria that the Board will select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that will be used to establish such Performance Goals may be based on any one of, or combination of, the following as determined by the Board: earnings (including earnings per share and net earnings); earnings before interest, taxes and depreciation; earnings before interest, taxes, depreciation and amortization; total stockholder return; return on equity or average stockholder's equity; return on assets, investment, or capital employed; stock price; margin (including gross margin); income (before or after taxes); operating income; operating income after taxes; pre-tax profit; operating cash flow; sales or revenue targets; increases in revenue or product revenue; expenses and cost reduction goals; improvement in or attainment of working capital levels; economic value added (or an equivalent metric); market share; cash flow; cash flow per share; share price performance; debt reduction; customer satisfaction; stockholders' equity; capital expenditures; debt levels; operating profit or net operating profit; workforce diversity; growth of net income or operating income; billings; financing; regulatory milestones; stockholder liquidity; corporate governance and compliance; intellectual property; personnel matters; progress of internal research; progress of partnered programs; partner satisfaction; budget management; partner or collaborator achievements; internal controls, including those related to the Sarbanes-Oxley Act of 2002; investor relations, analysts and communication; implementation or completion of projects or processes; employee retention; number of users, including unique users; strategic partnerships or transactions (including in- licensing and out-licensing of intellectual property); establishing relationships with respect to the marketing, distribution and sale of the Company's products; supply chain achievements; co-development, co-marketing, profit sharing, joint venture or other similar arrangements; individual performance goals; corporate development and planning goals; and other measures of performance selected by the Board or Committee whether or not listed herein.

(vv) "***Performance Goals***" means, for a Performance Period, the one or more goals established by the Board for the Performance Period based upon the Performance Criteria. Performance Goals may be based on a Company-wide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the Board (i) in the Award Agreement at the time the Award is granted or (ii) in such other document setting forth the Performance Goals at the time the Performance Goals are established, the Board will appropriately make adjustments in the method of calculating the attainment of Performance Goals for a Performance Period as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of Common Stock of the Company by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin- off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under the Company's bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; and (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles. In addition, the Board may establish or provide for other adjustment items in the Award Agreement at the time the Award is granted or in such other document setting forth the Performance Goals at the time the Performance Goals are established. In addition, the Board retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for such Performance Period. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Award Agreement or the written terms of a Performance Cash Award.

(ww) "***Performance Period***" means the period of time selected by the Board over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant's right to vesting or exercise of an Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Board.

(xx) "***Plan***" means this Palisade Bio, Inc. 2021 Equity Incentive Plan.

(yy) "***Plan Administrator***" means the person, persons, and/or third-party administrator designated by the Company to administer the day to day operations of the Plan and the Company's other equity incentive programs.

(zz) "***Post-Termination Exercise Period***" means the period following termination of a Participant's Continuous Service within which an Option or SAR is exercisable, as specified in Section 4(h).

(aaa) "***Restricted Stock Award***" or "***RSA***" means an Award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 5(a).

(bbb) "***Restricted Stock Award Agreement***" means a written or electronic agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. The Restricted Stock Award Agreement includes the Grant Notice for the Restricted Stock Award and the agreement containing the written summary of the general terms and conditions applicable to the Restricted Stock Award and which is provided, including by electronic means, to a Participant along with the Grant Notice. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

(ccc) "***RSU Award***" or "***RSU***" means an Award of restricted stock units representing the right to receive an issuance of shares of Common Stock which is granted pursuant to the terms and conditions of Section 5(a).

(ddd) "***RSU Award Agreement***" means a written or electronic agreement between the Company and a holder of a RSU Award evidencing the terms and conditions of a RSU Award. The RSU Award Agreement includes the Grant Notice for the RSU Award and the agreement containing the written summary of the general terms and conditions applicable to the RSU Award and which is provided, including by electronic means, to a Participant along with the Grant Notice. Each RSU Award Agreement will be subject to the terms and conditions of the Plan.

(eee) "***Rule 16b-3***" means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b- 3, as in effect from time to time.

(fff) "***Rule 405***" means Rule 405 promulgated under the Securities Act.

(ggg) "***Section 409A***" means Section 409A of the Code and the regulations and other guidance thereunder.

(hhh) "***Section 409A Change in Control***" means a change in the ownership or effective control of the Company, or in the ownership of a substantial portion of the Company's assets, as provided in Section 409A(a)(2)(A)(v) of the Code and Treasury Regulations Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder).

(iii) "***Securities Act***" means the Securities Act of 1933, as amended.

(jjj) "***Share Reserve***" means the number of shares available for issuance under the Plan as set forth in Section 2(a).

(kkk) "***Stock Appreciation Right***" or "***SAR***" means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 4.

(lll) "***SAR Agreement***" means a written or electronic agreement between the Company and a holder of a SAR evidencing the terms and conditions of a SAR grant. The SAR Agreement includes the Grant Notice for the SAR and the agreement containing the written summary of the general terms and conditions applicable to the SAR and which is provided, including by electronic means, to a Participant along with the Grant Notice. Each SAR Agreement will be subject to the terms and conditions of the Plan.

(mmm) "***Subsidiary***" means, with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

(nnn) "***Ten Percent Stockholder***" means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Affiliate.

(ooo) "***Trading Policy***" means the Company's policy permitting certain individuals to sell Company shares only during certain "window" periods and/or otherwise restricts the ability of certain individuals to transfer or encumber Company shares, as in effect from time to time.

(ppp) "***Unvested Non-Exempt Award***" means the portion of any Non-Exempt Award that had not vested in accordance with its terms upon or prior to the date of any Corporate Transaction.

(qqq) "***Vested Non-Exempt Award***" means the portion of any Non-Exempt Award that had vested in accordance with its terms upon or prior to the date of a Corporate Transaction.

ANNEX B

2021 EMPLOYEE STOCK PURCHASE PLAN (INCLUDING PROPOSED AMENDMENTS)

PALISADE BIO, INC.

2021 EMPLOYEE STOCK PURCHASE PLAN

ADOPTED BY THE BOARD OF DIRECTORS: FEBRUARY 9, 2021
APPROVED BY THE STOCKHOLDERS: APRIL 9, 2021
AMENDED BY THE STOCKHOLDERS: JUNE [*], 2023

1. GENERAL; PURPOSE.

(a) The Plan provides a means by which Eligible Employees of the Company and certain Designated Companies may be given an opportunity to purchase shares of Common Stock. The Plan permits the Company to grant a series of Purchase Rights to Eligible Employees under an Employee Stock Purchase Plan. In addition, the Plan permits the Company to grant a series of Purchase Rights to Eligible Employees that do not meet the requirements of an Employee Stock Purchase Plan.

(b) The Plan includes two components: a 423 Component and a Non-423 Component. The Company intends (but makes no undertaking or representation to maintain) the 423 Component to qualify as an Employee Stock Purchase Plan. The provisions of the 423 Component, accordingly, will be construed in a manner that is consistent with the requirements of Section 423 of the Code. Except as otherwise provided in the Plan or determined by the Board, the Non-423 Component will operate and be administered in the same manner as the 423 Component.

(c) The Company, by means of the Plan, seeks to retain the services of Eligible Employees, to secure and retain the services of new Employees and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Related Corporations.

2. ADMINISTRATION.

(a) The Board or the Committee will administer the Plan. References herein to the Board shall be deemed to refer to the Committee except where context dictates otherwise.

(b) The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine how and when Purchase Rights will be granted and the provisions of each Offering (which need not be identical).

(ii) To designate from time to time (A) which Related Corporations will be eligible to participate in the Plan as Designated 423 Corporations, (B) which Related Corporations or Affiliates will be eligible to participate in the Plan as Designated Non-423 Corporations, and (C) which Designated Companies will participate in each separate Offering (to the extent that the Company makes separate Offerings).

(iii) To construe and interpret the Plan and Purchase Rights, and to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan, in a manner and to the extent it deems necessary or expedient to make the Plan fully effective.

(iv) To settle all controversies regarding the Plan and Purchase Rights granted under the Plan.

(v) To suspend or terminate the Plan at any time as provided in Section 12.

(vi) To amend the Plan at any time as provided in Section 12.

(vii) Generally, to exercise such powers and to perform such acts as it deems necessary or expedient to promote the best interests of the Company and its Related Corporations and to carry out the intent that the Plan be treated as an Employee Stock Purchase Plan with respect to the 423 Component.

(viii) To adopt such rules, procedures and sub-plans as are necessary or appropriate to permit or facilitate participation in the Plan by Employees who are foreign nationals or employed or located outside the United States. Without limiting the generality of, and consistent with, the foregoing, the Board specifically is authorized to adopt rules, procedures, and sub-plans regarding, without limitation, eligibility to participate in the Plan, the definition of eligible "earnings," handling and making of Contributions, establishment of bank or trust accounts to hold Contributions, payment of interest, conversion of local currency, obligations to pay payroll tax, determination of beneficiary designation requirements, withholding procedures and handling of share issuances, any of which may vary according to applicable requirements, and which, if applicable to a Designated Non-423 Corporation, do not have to comply with the requirements of Section 423 of the Code.

(c) The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. Further, to the extent not prohibited by Applicable Law, the Board or Committee may, from time to time, delegate some or all of its authority under the Plan to one or more officers of the Company or other persons or groups of persons as it deems necessary, appropriate or advisable under conditions or limitations that it may set at or after the time of the delegation. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated. Whether or not the Board has delegated administration of the Plan to a Committee, the Board will have the final power to determine all questions of policy and expediency that may arise in the administration of the Plan.

(d) All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

3. SHARES OF COMMON STOCK SUBJECT TO THE PLAN.

(a) Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, the maximum number of shares of Common Stock that may be issued under the Plan will not exceed 144,547 shares of Common Stock, plus the number of shares of Common Stock that are automatically added on January 1st of each year for a period of ten years commencing on January 1, 2022 and ending on (and including) January 1, 2031, in an amount equal to the lesser of (i) 2.5% of the total number of shares of Common Stock outstanding on December 31st of the preceding calendar year and (ii) 433,641 shares of Common Stock. Notwithstanding the foregoing, the Board may act prior to the first day of any calendar year to provide that there will be no January 1st increase in the share reserve for such calendar year or that the increase in the share reserve for such calendar year will be a lesser number of shares of Common Stock than would otherwise occur pursuant to the preceding sentence. For the avoidance of doubt, up to the maximum number of shares of Common Stock reserved under this Section 3(a) may be used to satisfy purchases of Common Stock under the 423 Component and any remaining portion of such maximum number of shares may be used to satisfy purchases of Common Stock under the Non-423 Component.

(b) If any Purchase Right granted under the Plan terminates without having been exercised in full, the shares of Common Stock not purchased under such Purchase Right will again become available for issuance under the Plan.

(c) The stock purchasable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market.

4. GRANT OF PURCHASE RIGHTS; OFFERING.

(a) The Board may from time to time grant or provide for the grant of Purchase Rights to Eligible Employees under an Offering (consisting of one or more Purchase Periods) on an Offering Date or Offering Dates selected by the Board. Each Offering will be in such form and will contain such terms and conditions as the Board will deem appropriate, and, with respect to the 423 Component, will comply with the requirement of Section 423(b)(5) of the Code that all Employees granted Purchase Rights will have the same rights and privileges. The terms and conditions of an Offering shall be incorporated by reference into the Plan and treated as part of the Plan. The provisions of separate Offerings need not be identical, but each Offering will include (through incorporation of the provisions of this Plan by reference in the document comprising the Offering or otherwise) the period during which the Offering will be effective, which period will not exceed 27 months beginning with the Offering Date, and the substance of the provisions contained in Sections 5 through 8, inclusive.

(b) If a Participant has more than one Purchase Right outstanding under the Plan, unless he or she otherwise indicates in forms delivered to the Company or a third party designated by the Company (each, a "***Company Designee***"): (i) each form will apply to all of his or her Purchase Rights under the Plan, and (ii) a Purchase Right with a lower exercise price (or an earlier-granted Purchase Right, if different Purchase Rights have identical exercise prices) will be exercised to the fullest possible extent before a Purchase Right with a higher exercise price (or a later-granted Purchase Right if different Purchase Rights have identical exercise prices) will be exercised.

(c) The Board will have the discretion to structure an Offering so that if the Fair Market Value of a share of Common Stock on the first Trading Day of a new Purchase Period within that Offering is less than or equal to the Fair Market Value of a share of Common Stock on the Offering Date for that Offering, then (i) that Offering will terminate immediately as of that first Trading Day, and (ii) the Participants in such terminated Offering will be automatically enrolled in a new Offering beginning on the first Trading Day of such new Purchase Period.

5. ELIGIBILITY.

(a) Purchase Rights may be granted only to Employees of the Company or, as the Board may designate in accordance with Section 2(b), to Employees of a Related Corporation or an Affiliate. Except as provided in Section 5(b) or as required by Applicable Law, an Employee will not be eligible to be granted Purchase Rights unless, on the Offering Date, the Employee has been in the employ of the Company or the Related Corporation or an Affiliate, as the case may be, for such continuous period preceding such Offering Date as the Board may require, but in no event will the required period of continuous employment be equal to or greater than two years. In addition, the Board may (unless prohibited by Applicable Law) provide that no Employee will be eligible to be granted Purchase Rights under the Plan unless, on the Offering Date, such Employee's customary employment with the Company, the Related Corporation, or the Affiliate is more than 20 hours per week and more than five months per calendar year or such other criteria as the Board may determine consistent with Section 423 of the Code with respect to the 423 Component. The Board may also exclude from participation in the Plan or any Offering Employees who are "highly compensated employees" (within the meaning of Section 423(b)(4)(D) of the Code) of the Company or a Related Corporation or a subset of such highly compensated employees.

(b) The Board may provide that each person who, during the course of an Offering, first becomes an Eligible Employee will, on a date or dates specified in the Offering which coincides with the day on which such person becomes an Eligible Employee or which occurs thereafter, receive a Purchase Right under that Offering, which Purchase Right will thereafter be deemed to be a part of that Offering. Such Purchase Right will have the same characteristics as any Purchase Rights originally granted under that Offering, as described herein, except that:

(i) the date on which such Purchase Right is granted will be the "Offering Date" of such Purchase Right for all purposes, including determination of the exercise price of such Purchase Right;

(ii) the period of the Offering with respect to such Purchase Right will begin on its Offering Date and end coincident with the end of such Offering; and

(iii) the Board may provide that if such person first becomes an Eligible Employee within a specified period of time before the end of the Offering, he or she will not receive any Purchase Right under that Offering.

(c) No Employee will be eligible for the grant of any Purchase Rights under the 423 Component if, immediately after any such Purchase Rights are granted, such Employee owns stock possessing five percent or more of the total combined voting power or value of all classes of stock of the Company or of any Related Corporation. For purposes of this Section 5(c), the rules of Section 424(d) of the Code will apply in determining the stock ownership of any Employee, and stock which such Employee may purchase under all outstanding Purchase Rights and options will be treated as stock owned by such Employee.

(d) As specified by Section 423(b)(8) of the Code, an Eligible Employee may be granted Purchase Rights under the 423 Component only if such Purchase Rights, together with any other rights granted under all Employee Stock Purchase Plans of the Company and any Related Corporations, do not permit such Eligible Employee's rights to purchase stock of the Company or any Related Corporation to accrue at a rate which, when aggregated, exceeds US $25,000 of Fair Market Value of such stock (determined at the time such rights are granted, and which, with respect to the Plan, will be determined as of their respective Offering Dates) for each calendar year in which such rights are outstanding at any time.

(e) Officers of the Company and any Designated Company, if they are otherwise Eligible Employees, will be eligible to participate in Offerings under the Plan. Notwithstanding the foregoing, the Board may (unless prohibited by Applicable Law) provide in an Offering that Employees who are highly compensated Employees within the meaning of Section 423(b)(4)(D) of the Code will not be eligible to participate.

(f) Notwithstanding anything in this Section 5 to the contrary, in the case of an Offering under the Non-423 Component, an Eligible Employee (or group of Eligible Employees) may be excluded from participation in the Plan or an Offering if the Board has determined, in its sole discretion, that participation of such Eligible Employee(s) is not advisable or practical for any reason.

6. PURCHASE RIGHTS; PURCHASE PRICE.

(a) On each Offering Date, each Eligible Employee, pursuant to an Offering made under the Plan, will be granted a Purchase Right to purchase up to that number of shares of Common Stock purchasable either with a percentage or with a maximum dollar amount, as designated by the Board, but in either case not exceeding 15% of such Employee's earnings (as defined by the Board in each Offering) during the period that begins on the Offering Date (or such later date as the Board determines for a particular Offering) and ends on the date stated in the Offering, which date will be no later than the end of the Offering.

(b) The Board will establish one or more Purchase Dates during an Offering on which Purchase Rights granted for that Offering will be exercised and shares of Common Stock will be purchased in accordance with such Offering.

(c) In connection with each Offering made under the Plan, the Board may specify (i) a maximum number of shares of Common Stock that may be purchased by any Participant on any Purchase Date during such Offering, (ii) a maximum aggregate number of shares of Common Stock that may be purchased by all Participants pursuant to such Offering and/or (iii) a maximum aggregate number of shares of Common Stock that may be purchased by all Participants on any Purchase Date under the Offering. If the aggregate purchase of shares of Common Stock issuable upon exercise of Purchase Rights granted under the Offering would exceed any such maximum aggregate number, then, in the absence of any Board action otherwise, a pro rata (based on each Participant's accumulated Contributions) allocation of the shares of Common Stock (rounded down to the nearest whole share) available will be made in as nearly a uniform manner as will be practicable and equitable.

(d) The purchase price of shares of Common Stock acquired pursuant to Purchase Rights will be specified by Board prior to the commencement of an Offering and will not be less than the lesser of:

(i) an amount equal to 85% of the Fair Market Value of the shares of Common Stock on the Offering Date; or

(ii) an amount equal to 85% of the Fair Market Value of the shares of Common Stock on the applicable Purchase Date.

7. PARTICIPATION; WITHDRAWAL; TERMINATION.

(a) An Eligible Employee may elect to participate in an Offering and authorize payroll deductions as the means of making Contributions by completing and delivering to the Company or a Company Designee, within the time specified for the Offering, an enrollment form provided by the Company or Company Designee. The enrollment form will specify the amount of Contributions not to exceed the maximum amount specified by the Board. Each Participant's Contributions will be credited to a bookkeeping account for such Participant under the Plan and will be deposited with the general funds of the Company except where Applicable Law requires that Contributions be deposited with a third party. If permitted in the Offering, a Participant may begin such Contributions with the first payroll occurring on or after the Offering Date (or, in the case of a payroll date that occurs after the end of the prior Offering but before the Offering Date of the next new Offering, Contributions from such payroll will be included in the new Offering). If permitted in the Offering, a Participant may thereafter reduce (including to zero) or increase his or her Contributions. If required under Applicable Law or if specifically provided in the Offering and to extent permitted by Section 423 of the Code with respect to the 423 Component, in addition to or instead of making Contributions by payroll deductions, a Participant may make Contributions through payment by cash, check or wire transfer prior to a Purchase Date.

(b) During an Offering, a Participant may cease making Contributions and withdraw from the Offering by delivering to the Company or a Company Designee a withdrawal form provided by the Company. The Company may impose a deadline before a Purchase Date for withdrawing. Upon such withdrawal, such Participant's Purchase Right in that Offering will immediately terminate and the Company will distribute as soon as practicable to such Participant all of his or her accumulated but unused Contributions and such Participant's Purchase Right in that Offering shall thereupon terminate. A Participant's withdrawal from that Offering will have no effect upon his or her eligibility to participate in any other Offerings under the Plan, but such Participant will be required to deliver a new enrollment form to participate in subsequent Offerings.

(c) Unless otherwise required by Applicable Law, Purchase Rights granted pursuant to any Offering under the Plan will terminate immediately if the Participant either (i) is no longer an Employee for any reason or for no reason (subject to any post-employment participation period required by Applicable Law) or (ii) is otherwise no longer eligible to participate. The Company will distribute as soon as practicable to such individual all of his or her accumulated but unused Contributions.

(d) Unless otherwise determined by the Board, a Participant whose employment transfers or whose employment terminates with an immediate rehire (with no break in service) by or between the Company and a Designated Company or between Designated Companies will not be treated as having terminated employment for purposes of participating in the Plan or an Offering; however, if a Participant transfers from an Offering under the 423 Component to an Offering under the Non-423 Component, the exercise of the Participant's Purchase Right will be qualified under the 423 Component only to the extent such exercise complies with Section 423 of the Code. If a Participant transfers from an Offering under the Non-423 Component to an Offering under the 423 Component, the exercise of the Purchase Right will remain non-qualified under the Non-423 Component. The Board may establish different and additional rules governing transfers between separate Offerings within the 423 Component and between Offerings under the 423 Component and Offerings under the Non-423 Component.

(e) During a Participant's lifetime, Purchase Rights will be exercisable only by such Participant. Purchase Rights are not transferable by a Participant, except by will, by the laws of descent and distribution, or, if permitted by the Company, by a beneficiary designation as described in Section 10.

(f) Unless otherwise specified in the Offering or as required by Applicable Law, the Company will have no obligation to pay interest on Contributions.

8. EXERCISE OF PURCHASE RIGHTS.

(a) On each Purchase Date, each Participant's accumulated Contributions will be applied to the purchase of shares of Common Stock, up to the maximum number of shares of Common Stock permitted by the Plan and the applicable Offering, at the purchase price specified in the Offering. No fractional shares will be issued unless specifically provided for in the Offering.

(b) Unless otherwise provided in the Offering, if any amount of accumulated Contributions remains in a Participant's account after the purchase of shares of Common Stock on the final Purchase Date of an Offering, then such remaining amount will not roll over to the next Offering and will instead be distributed in full to such Participant after the final Purchase Date of such Offering without interest (unless otherwise required by Applicable Law).

(c) No Purchase Rights may be exercised to any extent unless the shares of Common Stock to be issued upon such exercise under the Plan are covered by an effective registration statement pursuant to the Securities Act and the Plan is in material compliance with all applicable U.S. federal and state, foreign and other securities, exchange control and other laws applicable to the Plan. If on a Purchase Date the shares of Common Stock are not so registered or the Plan is not in such compliance, no Purchase Rights will be exercised on such Purchase Date, and, subject to Section 423 of the Code with respect to the 423 Component, the Purchase Date will be delayed until the shares of Common Stock are subject to such an effective registration statement and the Plan is in material compliance, except that the Purchase Date will in no event be more than 27 months from the Offering Date. If, on the Purchase Date, as delayed to the maximum extent permissible, the shares of Common Stock are not registered and the Plan is not in material compliance with all Applicable Laws, as determined by the Company in its sole discretion, no Purchase Rights will be exercised and all accumulated but unused Contributions will be distributed to the Participants without interest (unless the payment of interest is otherwise required by Applicable Law).

9. COVENANTS OF THE COMPANY.

The Company will seek to obtain from each U.S. federal or state, foreign or other regulatory commission, agency or other Governmental Body having jurisdiction over the Plan such authority as may be required to grant Purchase Rights and issue and sell shares of Common Stock thereunder unless the Company determines, in its sole discretion, that doing so is not practical or would cause the Company to incur costs that are unreasonable. If, after commercially reasonable efforts, the Company is unable to obtain the authority that counsel for the Company deems necessary for the grant of Purchase Rights or the lawful issuance and sale of Common Stock under the Plan, and at a commercially reasonable cost, the Company will be relieved from any liability for failure to grant Purchase Rights and/or to issue and sell Common Stock upon exercise of such Purchase Rights.

10. DESIGNATION OF BENEFICIARY.

(a) The Company may, but is not obligated to, permit a Participant to submit a form designating a beneficiary who will receive any shares of Common Stock and/or Contributions from the Participant's account under the Plan if the Participant dies before such shares and/or Contributions are delivered to the Participant. The Company may, but is not obligated to, permit the Participant to change such designation of beneficiary. Any such designation and/or change must be on a form approved by the Company.

(b) If a Participant dies, and in the absence of a valid beneficiary designation, the Company will deliver any shares of Common Stock and/or Contributions to the executor or administrator of the estate of the Participant. If no executor or administrator has been appointed (to the knowledge of the Company), the Company, in its sole discretion, may deliver such shares of Common Stock and/or Contributions, without interest (unless the payment of interest is otherwise required by Applicable Law), to the Participant's spouse, dependents or relatives, or if no spouse, dependent or relative is known to the Company, then to such other person as the Company may designate.

11. Adjustments upon Changes in Common Stock; Corporate Transactions.

(a) In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a), (ii) the class(es) and maximum number of securities by which the share reserve is to increase automatically each year pursuant to Section 3(a), (iii) the class(es) and number of securities subject to, and the purchase price applicable to outstanding Offerings and Purchase Rights, and (iv) the class(es) and number of securities that are the subject of the purchase limits under each ongoing Offering. The Board will make these adjustments, and its determination will be final, binding and conclusive.

(b) In the event of a Corporate Transaction, then: (i) any surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) may assume or continue outstanding Purchase Rights or may substitute similar rights (including a right to acquire the same consideration paid to the stockholders in the Corporate Transaction) for outstanding Purchase Rights, or (ii) if any surviving or acquiring corporation (or its parent company) does not assume or continue such Purchase Rights or does not substitute similar rights for such Purchase Rights, then the Participants' accumulated Contributions will be used to purchase shares of Common Stock (rounded down to the nearest whole share) within ten business days (or such other period specified by the Board) prior to the Corporate Transaction under the outstanding Purchase Rights, and the Purchase Rights will terminate immediately after such purchase.

12. Amendment, Termination or Suspension of the Plan.

(a) The Board may amend the Plan at any time in any respect the Board deems necessary or advisable. However, except as provided in Section 11(a) relating to Capitalization Adjustments, stockholder approval will be required for any amendment of the Plan for which stockholder approval is required by Applicable Law.

(b) The Board may suspend or terminate the Plan at any time. No Purchase Rights may be granted under the Plan while the Plan is suspended or after it is terminated.

Any benefits, privileges, entitlements and obligations under any outstanding Purchase Rights granted before an amendment, suspension or termination of the Plan will not be materially impaired by any such amendment, suspension or termination except (i) with the consent of the person to whom such Purchase Rights were granted, (ii) as necessary to facilitate compliance with any laws, listing requirements, or governmental regulations (including, without limitation, the provisions of Section 423 of the Code and the regulations and other interpretive guidance issued thereunder relating to Employee Stock Purchase Plans) including without limitation any such regulations or other guidance that may be issued or amended after the date the Plan is adopted by the Board, or (iii) as necessary to obtain or maintain favorable tax, listing, or regulatory treatment. To be clear, the Board may amend outstanding Purchase Rights without a Participant's consent if such amendment is necessary to ensure that the Purchase Right and/or the Plan complies with the requirements of Section 423 of the Code with respect to the 423 Component or with respect to other Applicable Laws. Notwithstanding anything in the Plan or any Offering Document to the contrary, the Board will be entitled to: (i) establish the exchange ratio applicable to amounts withheld in a currency other than U.S. dollars; (ii) permit Contributions in excess of the amount designated by a Participant in order to adjust for mistakes in the Company's processing of properly completed Contribution elections; (iii) establish reasonable waiting and adjustment periods and/or accounting and crediting procedures to ensure that amounts applied toward the purchase of Common Stock for each Participant properly correspond with amounts withheld from the Participant's Contributions; (iv) amend any outstanding Purchase Rights or clarify any ambiguities regarding the terms of any Offering to enable the Purchase Rights to qualify under and/or comply with Section 423 of the Code with respect to the 423 Component; and (v) establish other limitations or procedures as the Board determines in its sole discretion advisable that are consistent with the Plan. The actions of the Board pursuant to this paragraph will not be considered to alter or impair any Purchase Rights granted under an Offering as they are part of the initial terms of each Offering and the Purchase Rights granted under each Offering.

13. TAX QUALIFICATION; TAX WITHHOLDING.

(a) Although the Company may endeavor to (i) qualify a Purchase Right for special tax treatment under the laws of the United States or jurisdictions outside of the United States or (ii) avoid adverse tax treatment, the Company makes no representation to that effect and expressly disavows any covenant to maintain special or to avoid unfavorable tax treatment, notwithstanding anything to the contrary in this Plan. The Company will be unconstrained in its corporate activities without regard to the potential negative tax impact on Participants.

(b) Each Participant will make arrangements, satisfactory to the Company and any applicable Related Corporation, to enable the Company or the Related Corporation to fulfill any withholding obligation for Tax-Related Items. Without limitation to the foregoing, in the Company's sole discretion and subject to Applicable Law, such withholding obligation may be satisfied in whole or in part by (i) withholding from the Participant's salary or any other cash payment due to the Participant from the Company or a Related Corporation; (ii) withholding from the proceeds of the sale of shares of Common Stock acquired under the Plan, either through a voluntary sale or a mandatory sale arranged by the Company; or (iii) any other method deemed acceptable by the Board. The Company shall not be required to issue any shares of Common Stock under the Plan until such obligations are satisfied.

(c) The 423 Component is exempt from the application of Section 409A of the Code, and any ambiguities herein shall be interpreted to so be exempt from Section 409A of the Code. The Non-423 Component is intended to be exempt from the application of Section 409A of the Code under the short-term deferral exception and any ambiguities shall be construed and interpreted in accordance with such intent. In furtherance of the foregoing and notwithstanding any provision in the Plan to the contrary, if the Committee determines that an option granted under the Plan may be subject to Section 409A of the Code or that any provision in the Plan would cause an option under the Plan to be subject to Section 409A, the Committee may amend the terms of the Plan and/or of an outstanding option granted under the Plan, or take such other action the Committee determines is necessary or appropriate, in each case, without the participant's consent, to exempt any outstanding option or future option that may be granted under the Plan from or to allow any such options to comply with Section 409A of the Code, but only to the extent any such amendments or action by the Committee would not violate Section 409A of the Code. Notwithstanding the foregoing, the Company shall have no liability to a participant or any other party if the option under the Plan that is intended to be exempt from or compliant with Section 409A of the Code is not so exempt or compliant or for any action taken by the Committee with respect thereto.

14. EFFECTIVE DATE OF PLAN.

The Plan will become effective immediately prior to and contingent upon the Effective Date. No Purchase Rights will be exercised unless and until the Plan has been approved by the stockholders of the Company, which approval must be within 12 months before or after the date the Plan is adopted (or if required under Section 12(a) above, materially amended) by the Board.

15. MISCELLANEOUS PROVISIONS.

(a) Proceeds from the sale of shares of Common Stock pursuant to Purchase Rights will constitute general funds of the Company.

(b) A Participant will not be deemed to be the holder of, or to have any of the rights of a holder with respect to, shares of Common Stock subject to Purchase Rights unless and until the Participant's shares of Common Stock acquired upon exercise of Purchase Rights are recorded in the books of the Company (or its transfer agent).

(c) The Plan and Offering do not constitute an employment contract. Nothing in the Plan or in the Offering will in any way alter the at will nature of a Participant's employment or amend a Participant's employment contract, if applicable, or be deemed to create in any way whatsoever any obligation on the part of any Participant to continue in the employ of the Company or a Related Corporation or an Affiliate, or on the part of the Company, a Related Corporation or an Affiliate to continue the employment of a Participant.

(d) The provisions of the Plan will be governed by the laws of the State of Delaware without resort to that state's conflicts of laws rules.

(e) If any particular provision of the Plan is found to be invalid or otherwise unenforceable, such provision will not affect the other provisions of the Plan, but the Plan will be construed in all respects as if such invalid provision were omitted.

(f) If any provision of the Plan does not comply with Applicable Law, such provision shall be construed in such a manner as to comply with Applicable Law.

16. DEFINITIONS.

As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "***423 Component***" means the part of the Plan, which excludes the Non-423 Component, pursuant to which Purchase Rights that satisfy the requirements for an Employee Stock Purchase Plan may be granted to Eligible Employees.

(b) "*Affiliate*" means any entity, other than a Related Corporation, whether now or subsequently established, which is at the time of determination, a "parent" or "subsidiary" of the Company as such terms are defined in Rule 405 promulgated under the Securities Act. The Board may determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(c) "***Applicable Law***" means shall mean the Code and any applicable securities, federal, state, foreign, material local or municipal or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, listing rule, regulation, judicial decision, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Body (or under the authority of the NASDAQ Stock Market, the New York Stock Exchange or the Financial Industry Regulatory Authority).

(d) "***Board***" means the board of directors of the Company.

(e) "***Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Purchase Right after the date the Plan is adopted by the Board without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other similar equity restructuring transaction, as that term is used in Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(f) "***Code***" means the U.S. Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(g) "***Committee***" means a committee of one or more members of the Board to whom authority has been delegated by the Board in accordance with Section 2(c).

(h) "***Common Stock***" means the common stock of the Company.

(i) "***Company***" means Palisade Bio, Inc., a Delaware corporation.

(j) **"*Contributions***" means the payroll deductions and other additional payments specifically provided for in the Offering that a Participant contributes to fund the exercise of a Purchase Right. A Participant may make additional payments into his or her account if specifically provided for in the Offering, and then only if the Participant has not already had the maximum permitted amount withheld during the Offering through payroll deductions and, with respect to the 423 Component, to the extent permitted by Section 423 of the Code.

(k) "***Corporate Transaction***" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its subsidiaries;

(ii) a sale or other disposition of more than 50% of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(l) **"*Designated 423 Corporation*"** means any Related Corporation selected by the Board to participate in the 423 Component.

(m) **"*Designated Company*"** means any Designated Non-423 Corporation or Designated 423 Corporation, provided, however, that at any given time, a Related Corporation participating in the 423 Component shall not be a Related Corporation participating in the Non-423 Component.

(n) **"*Designated Non-423 Corporation*"** means any Related Corporation or Affiliate selected by the Board to participate in the Non-423 Component.

(o) "***Director***" means a member of the Board.

(p) "***Effective Date***" means April 27, 2021.

(q) "***Eligible Employee***" means an Employee who meets the requirements set forth in the document(s) governing the Offering for eligibility to participate in the Offering, provided that such Employee also meets the requirements for eligibility to participate set forth in the Plan.

(r) "***Employee***" means any person, including an Officer or Director, who is "employed" for purposes of Section 423(b)(4) of the Code by the Company or a Related Corporation, or solely with respect to the Non-423 Component, an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(s) "***Employee Stock Purchase Plan***" means a plan that grants Purchase Rights intended to be options issued under an "employee stock purchase plan," as that term is defined in Section 423(b) of the Code.

(t) "***Exchange Act***" means the U.S. Securities Exchange Act of 1934, as amended and the rules and regulations promulgated thereunder.

(u) "***Fair Market Value***" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock will be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in such source as the Board deems reliable. Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing sales price on the last preceding date for which such quotation exists.

(ii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith in compliance with Applicable Laws and regulations and, to the extent applicable as determined in the sole discretion of the Board, in a manner that complies with Sections 409A of the Code

(v) "***Governmental Body***" means any: (a) nation, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; (c) governmental or regulatory body, or quasi-governmental body of any nature (including any governmental division, department, administrative agency or bureau, commission, authority, instrumentality, official, ministry, fund, foundation, center, organization, unit, body or entity and any court or other tribunal, and for the avoidance of doubt, any tax authority) or other body exercising similar powers or authority; or (d) self-regulatory organization (including the NASDAQ Stock Market, the New York Stock Exchange and the Financial Industry Regulatory Authority).

(w) "***Non-423 Component***" means the part of the Plan, which excludes the 423 Component, pursuant to which Purchase Rights that are not intended to satisfy the requirements for an Employee Stock Purchase Plan may be granted to Eligible Employees.

(x) "***Offering***" means the grant to Eligible Employees of Purchase Rights, with the exercise of those Purchase Rights automatically occurring at the end of one or more Purchase Periods. The terms and conditions of an Offering will generally be set forth in the "***Offering Document***" approved by the Board for that Offering.

(y) "***Offering Date***" means a date selected by the Board for an Offering to commence.

(z) "***Officer***" means a person who is an officer of the Company or a Related Corporation within the meaning of Section 16 of the Exchange Act.

(aa) "***Participant***" means an Eligible Employee who holds an outstanding Purchase Right.

(bb) "***Plan***" means this Palisade Bio, Inc. 2021 Employee Stock Purchase Plan, as amended from time to time, including both the 423 Component and the Non-423 Component.

(cc) "***Purchase Date***" means one or more dates during an Offering selected by the Board on which Purchase Rights will be exercised and on which purchases of shares of Common Stock will be carried out in accordance with such Offering.

(dd) "***Purchase Period***" means a period of time specified within an Offering, generally beginning on the Offering Date or on the first Trading Day following a Purchase Date, and ending on a Purchase Date. An Offering may consist of one or more Purchase Periods.

(ee) "***Purchase Right***" means an option to purchase shares of Common Stock granted pursuant to the Plan.

(ff) "***Related Corporation***" means any "parent corporation" or "subsidiary corporation" of the Company whether now or subsequently established, as those terms are defined in Sections 424(e) and (f), respectively, of the Code.

(gg) "***Securities Act***" means the U.S. Securities Act of 1933, as amended.

(hh) "***Tax-Related Items***" means any income tax, social insurance, payroll tax, fringe benefit tax, payment on account or other tax-related items arising out of or in relation to a Participant's participation in the Plan, including, but not limited to, the exercise of a Purchase Right and the receipt of shares of Common Stock or the sale or other disposition of shares of Common Stock acquired under the Plan.

(ii) "***Trading Day***" means any day on which the exchange(s) or market(s) on which shares of Common Stock are listed, including but not limited to the New York Stock Exchange, Nasdaq Global Select Market, the Nasdaq Global Market, the Nasdaq Capital Market or any successors thereto, is open for trading.