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

DIVISION OF
CORPORATION FINANCE

July 3, 2021

Mai-Britt Zocca, Ph.D.
Chief Executive Officer
IO Biotech, Inc.
Ole Maaløes Vej 3
DK-2200 Copenhagen N
Denmark

Re: IO Biotech, Inc.
Draft Registration Statement on Form S-1
Submitted June 3, 2021
CIK No. 0001865494

Dear Dr. Zocca:

We have reviewed your draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Draft Registration Statement on Form S-1 submitted June 3, 2021

Overview, page 1

1. Please balance your discussion of the Phase 1/2 clinical trial results/observations concerning efficacy by explaining the purpose of the trial and any material limitations to the reported results/observations. In this regard, we note that it is unclear whether clinical endpoints were established with respect to tumor regression and durability of antitumor response and it is also unclear whether these results/observations are statistically significant. With reference to your disclosure at the bottom of page 23, also tell us whether you were able to evaluate and determine the contributions of IO102-IO103 as compared to those of the combination therapy.

2. With reference to your regulatory discussion on pages 146-147, please tell us your basis for identifying this trial as "Phase 1/2" and your planned trial as a potentially "registrational Phase 3 trial." Also, revise the disclosure on page 1 to explain the term "basket trials". Revise your regulatory discussion in the Business section to discuss these three terms.

3. We note your statement on page 2 that your IO102-IO103 product candidate in combination with nivolumab demonstrated a "manageable tolerability profile" and your disclosure on page 107 identifying tolerability as an advantage of your T-win Technology Platform. Please balance these disclosures by addressing the occurrence of serious, high-grade adverse events in your MM1636 trial as disclosed on pages 20 and 112. Also, tell us why there does not appear to be any discussion concerning dosage tolerability in your discussions of the ongoing phase 1/2 trial or the planned phase 3 trial.

4. Revise the Summary to explain why your plan is to use pembrolizumab as the combination product for your next trial as opposed to nivolumab.

Our Immunotherapy Pipeline, page 2

5. We note your statement on page 99 that the you plan to move into a Phase1/2 trial for IO112 in combination with IO102 and IO103 and your disclosure on page 23 that "it is expected that our product candidates, if approved, would be used in combination with third-party drugs or biologics." Please clearly indicate such in the pipeline table on pages 2 and 98.

Our Strategy, page 4

6. We note your disclosure here and in the Business section that your strategy is to "rapidly advance" 1O102-IO103 toward approval in combination with anti-PD-1 therapy in first-line treatment of metastatic melanoma. We also note your risk factor disclosure that, "[b]reakthrough therapy designation by the FDA for any product candidate may not lead to a faster development or regulatory review." Please revise/balance this disclosure to remove the implication that you will be successful in commercializing your product candidates in a rapid or accelerated manner as such statements are speculative.

Some data for product candidates comes from clinical trials conducted outside the United States..., page 21

7. Please revise to explain whether the phase 1/2 trial you reference was representative of the population that you intend to label the product candidate in the United States.

Use of Proceeds, page 78

8. We note your statement that the use of proceeds is to fund the development and regulatory activities relating to your product candidates. Please revise your disclosure to allocate the amount of proceeds you expect to use for each of your programs and specify how far in the clinical development of your product candidates you expect to reach with the net proceeds. If any material amounts of other funds are necessary to accomplish the specified purposes for which the proceeds are to be obtained, state the amounts and sources of such other funds needed for each such specified purpose and the sources thereof. Refer to Instruction 3 of Item 504 of Regulation S-K.

9. We note your disclosure on page 94 that you will be obligated to pay Herlev a fee upon the completion of this offering. To the extent the offering proceeds will be used to pay this obligation, please disclose the fee owed to Herlev here.

Dual Epitope IO102-IO103, page 107

10. Please clarify your disclosure in this section to make clear that your planned Phase 3 trial for IO102-IO103 is a combination trial with an anti-PD-1 monoclonal antibody therapy, consistent with your disclosure throughout your registration statement.

Preclinical Development, page 108

11. We note your disclosure that, "[t]here have been no health impairments in the two non-clinical toxicity studies performed with IO102 and IO103." Please clarify here if the studies performed evaluated your combination product IO102-IO103 or if the studies evaluated each product candidate individually.

Development of Dual Epitope IO102-IO103 in the First-line Setting, page 111

12. We note your disclosure that the results from the MM1636 trial have a cut-off date of February 22, 2021 and that the prior cut-off date was in January 2021. With a view to disclosure, please tell us whether you are receiving updated data from this cohort and whether a more recent cut-off date will be used in future amendments.

Additional Trials in Other First-Line Indications and Neo-Adjuvant and Adjuvant Settings, page 120

13. We note that Table 5 on page 121 depicts a summary of adverse events of various investigator completed trials with IO101, IO102 and IO103 and Table 6 and Table 7 depict ongoing and planned trials. Please provide narrative disclosure to accompany Table 5 to specifically discuss any material serious adverse events occurring in your trials. In addition, include narrative disclosure for Table 6 and Table 7 to clarify the specific trials designs and their status, including planned or actual initiation dates and planned completion dates.

Collaborations
Agreements with Herlev Hospital, page 139

14. We note your disclosure that the Company entered into a Framework Assignment Agreement and an Assignment Agreement in January 2017 and December 2018 with Herlev, for certain rights related to your lead product candidates. Please file such agreements as an exhibit pursuant to Item 601(b)(10) of Regulation S-K or tell us why you believe such filing is not required. In addition, we note your disclosure that you obtained assignments and licenses related to each of your lead product candidates, IO102, IO103 and IO112. However, you appear to only discuss two Assignment Agreements that cover (i) the PD-L1 technology and (ii) the Arginase technology. Please describe or otherwise advise if a separate agreement covers your IDO target (IDO102).

15. We note your disclosure here that your agreement with Herlev covers "cancer vaccines" and your Merck Collaboration Agreement disclosure also references a "peptide vaccine." Please update your disclosure in your business section or otherwise advise if you are currently developing cancer vaccines or peptide vaccines referenced here.

Patents, page 144

16. We note your disclosure that the, "[g]rant is imminent in China" for your patents related to IO103 and that your TDO patent family is also "(grant imminent)" for the EPO. Given that the grant of a patent in these jurisdictions appear to be outside of your control, please provide your basis that the patents will be imminently granted in these jurisdictions or otherwise advise.

17. We note that you have multiple types of patents (composition of matter and methods of use) granted in multiple jurisdictions for your product candidates. Please revise and expand your disclosure to clearly state the patent expiration date for each material jurisdiction. In addition, please disaggregate and clarify the patent expiration dates for your different types of patents (composition of matter and methods of use).

General

18. Please provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

19. We note several graphics where the text is not legible. For example only, we note figure 2 and 3 on page 105, figure 4 on page 106 and figure 13 and 14 on page 119, where the text is not clear or legible. Please modify your graphics throughout your filing as necessary to ensure that all text is legible.

20. At first use, please define abbreviations. For example only, we note that "CI" on page 109 and "LDH" and "DMSO" on page 111 are not defined at first use.

21. We note your disclosure here to various sources where the description is not clear. For example only, we note references to Ascierto (2019), Robert (2019), Larkin (2019), Maio (2015) and Garbe (2011). If you funded or were otherwise affiliated with any of the studies or reports you cite, please disclose such information. In addition, please confirm that these sources are widely available to the public and update your disclosure accordingly to provide additional details regarding the studies you appear to reference so the disclosure clearly identifies the specific sources.

You may contact David Burton at (202) 551-3626 or Al Pavot at (202) 551-3738 if you have questions regarding comments on the financial statements and related matters. Please contact Jason Drory at (202) 551-8342 or Joe McCann at (202) 551-6262 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Frank Rahmani, Esq.