



DIVISION OF
CORPORATION FINANCE

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

August 18, 2023

Ken Song, M.D.
President and Chief Executive Officer
RayzeBio, Inc.
5505 Morehouse Drive, Suite 300
San Diego, CA 92121

Re: RayzeBio, Inc.
Amendment No. 3 to Draft Registration Statement on Form S-1
Submitted August 4, 2023
CIK No. 0001825367

Dear Ken Song:

We have reviewed your amended 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.

Amendment No. 3 to Draft Registration Statement on Form S-1, submitted August 4, 2023

Prospectus Summary, page 1

1. We note your response to prior comment 4 and your revised disclosure on page 3 noting that the terms "partial response" and "objective response rate" are defined by "RECIST v1.1." Please revise your disclosure further to specifically define these terms as they appear in RECIST v1.1.
2. We note your response to prior comment 3 and your disclosure that you "believe [you] have established a leadership position in the emerging radiopharmaceutical therapeutics modality through a product-centric approach and have created a pipeline of multiple drug and development candidates in therapeutic areas with significant market opportunities." Please revise to describe what a product-centric approach means and how this differs from

or is superior to the approach of your competitors such that you believe you are a leader in this space.

Our Programs, page 2

3. We note your response to prior comment 5. With respect to the SSTR2 - RYZ101 for "other cancers" row, we note your added disclosure that you "are conducting analyses to assess SSTR2 expression in other cancers for purposes of determining whether any other cancers may be suitable for further development." Please revise to state which cancers you are analyzing at this time and additional detail concerning your analyses conducted thus far. The "next generation binder" for "multiple cancers" row lacks both a drug candidate and a more specific indication than "multiple cancers," you do not plan to nominate a development candidate for this program until mid-next year and there is little disclosure regarding this program. The "other" row similarly lacks a target, a drug candidate and a more specific indication than "multiple cancers" and has a "next anticipated milestone" of "n/a." Please remove your "next generation binder" for "multiple cancers" row and "other" row for "multiple cancers" from the pipeline table as these programs continue to not appear sufficiently material. You may describe these in your disclosure, but they do not appear to be material enough for inclusion in the pipeline table.

Phase 1b portion of the ACTION-1 trial in patients with GEP-NETs, page 129

4. We note your response to prior comment 13 and your revised disclosure noting that the starting dose for this trial was selected "based on prior third party clinical experience with Ac225 DOTATE through academic clinical centers outside the United States via compassionate use." Please revise this disclosure to provide further details about the "prior clinical experience" noted here, including, but not limited to, the data produced by those third parties.

You may contact Gary Newberry at 202-551-3761 or Kevin Vaughn at 202-551-3494 if you have questions regarding comments on the financial statements and related matters. Please contact Joshua Gorsky at 202-551-7836 or Margaret Schwartz at 202-551-7153 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Terren J. O'Connor, Esq.