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June 14, 2024

VIA EDGAR

U.S. Securities and Exchange Commission
Division of Corporation Finance, Office of Life Sciences
100 F Street, N.E. Washington, D.C. 20549
Attention: Tyler Howes and Chris Edwards
Re: Zenas BioPharma, Inc.
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted May 16, 2024
CIK No. 0001953926

Ladies and Gentlemen:

On behalf of Zenas BioPharma, Inc. (the "Company"), we hereby confidentially submit to the U.S. Securities and Exchange Commission (the "Commission"), via EDGAR, Amendment No. 2 ("Amendment No. 2") to the above-referenced draft registration statement (the "Draft Registration Statement"). Amendment No. 2 reflects revisions to the Draft Registration Statement made in response to the comment letter from the staff of the Division of Corporation Finance (the "Staff") of the Commission dated May 28, 2024 regarding the Draft Registration Statement, as well as certain other updated information. Marked copies showing changes from Amendment No. 1 to the Draft Registration Statement confidentially submitted on May 16, 2024 are being furnished supplementally for the convenience of the Staff.

In addition, we are providing the following responses to the Staff's comments. To assist your review, we have presented the text of the Staff's comments in italics below and the Company's responses set forth in this letter are numbered to correspond to the numbered comments from the Staff's letter. The responses and information described below are based upon information provided to us by the Company and all terms used but not defined herein have the meanings assigned to such terms in Amendment No. 2.

Amendment No. 1 to Draft Registration Statement on Form S-1

Prospectus Summary
Overview, page 1

1. *We note your response to prior comment 4 and reissue in part. Please revise this section to disclose the quantity and types of serious adverse events observed while conducting your clinical trials of obexelimab.*

Response to Comment 1: The Company acknowledges the Staff's comment and respectfully advises the Staff that it believes that disclosing in the Prospectus Summary section of the Draft Registration Statement the quantity and types of serious adverse events observed in previously completed clinical trials of obexelimab, which information is already disclosed in the Business section of the Draft Registration Statement, is not necessary to provide potential investors with meaningful information regarding the safety of obexelimab in its current and proposed formulation. As disclosed in the Prospectus Summary of the Draft Registration Statement, the current ongoing and planned future trials of obexelimab utilize subcutaneous injection for administration, whereas all but one of the previously conducted trials of obexelimab utilized intravenous infusion. The one prior trial that utilized subcutaneous injection of obexelimab was the study conducted to compare the bioavailability and safety and tolerability of obexelimab administered subcutaneously versus intravenously, the results of which support the Company's plans to continue development of obexelimab using the subcutaneous formulation. As discussed in the Business section of the Draft Registration Statement, no serious adverse events were observed when obexelimab was administered subcutaneously, and each of the serious adverse events observed when obexelimab was administered via intravenous infusion were infusion-related or considered to be not related to obexelimab. Therefore, the Company respectfully submits that giving additional prominence to the serious adverse events observed in completed trials using the prior intravenous formulation of obexelimab, particularly when each of the serious adverse events related to the study drug related to the prior method of administration that is no longer used, is not necessary to provide potential investors with meaningful information that is already disclosed in the Business section of the Draft Registration Statement and may be misleading by implying that such safety concerns have more relevance to the Company's ongoing and proposed development of obexelimab.

Risk Factors
We currently rely on a single third-party manufacturer, WuXi Biologics, to supply our product candidates…, page 58

2. *Please revise this risk factor to clarify if WuXi Biologics solely holds any of the necessary intellectual property, technology or know-how required to manufacture your product candidates.*

Response to Comment 2: In response to the Staff's comment, the Company has revised the disclosure on page 58 of Amendment No. 2 to include the requested disclosure.

The operations of our suppliers, many of which are located outside of the United States, including our current sole CMO…, page 62

3. *We note your statement that you would be potentially restricted from entering into long-term "commercial arrangements" with WuXi Biologics if the proposed BIOSECURE Act is enacted. Please clarify if that would include sourcing drug product from WuXi Biologics for clinical or commercial use and disclose the resulting risks to investors. Your revisions should also discuss any steps you have taken to mitigate these risks, such as evaluating potential replacement contract manufacturing organizations in the United States or European Union.*

Response to Comment 3: In response to the Staff's comment, the Company has revised the disclosure on pages 63 and 132 of Amendment No. 2 to include the requested disclosure.

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Please do not hesitate to call me at (617) 235-4961 or Nicholas Roper at (617) 951-7116 with any questions or further comments you may have regarding this filing or if you wish to discuss the above responses.

Sincerely,

/s/ Thomas J. Danielski

cc. Leon O. Moulder, Jr. (Zenas BioPharma, Inc.)
cc. Joseph Farmer (Zenas BioPharma, Inc.)
cc. Nicholas Roper (Ropes & Gray LLP)
cc. Richard Segal (Cooley LLP)
cc. Denny Won (Cooley LLP)