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July 16, 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. 3 to Draft Registration Statement on Form S-1
Submitted June 26, 2024
CIK No. 0001953926

Ladies and Gentlemen:

On behalf of Zenas BioPharma, Inc. (the "Company"), we hereby submit this response to the comment letter from the staff of the Division of Corporation Finance (the "Staff") of the Securities and Exchange Commission (the "Commission") dated July 5, 2024 regarding the above-referenced draft registration statement (the "Draft Registration Statement").

To assist your review, we have presented the text of the Staff's comment in italics below and the Company's response set forth in this letter is numbered to correspond to the numbered comment from the Staff's letter. The response and information described below is 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 the Draft Registration Statement.

July 16, 2024

Amendment No. 3 to Draft Registration Statement on Form S-1

Prospectus Summary
Overview, page 1

1. *We note your disclosure here that obexelimab has the potential to be a "best-in-class" B cell therapy for patients with certain autoimmune diseases. This appears to be speculative given the current development status of your product candidate. Please remove this statement and any other references to obexelimab being potentially "best-in-class" throughout your registration statement.*

Response to Comment 1: In response to the Staff's comment, the Company will revise the disclosure to remove references to obexelimab being potentially "best-in-class".

In addition, on behalf of the Company, we submit the following in response to the comment letter from the Staff dated May 15, 2024. To assist your review, we have presented the text of the Staff's comment in italics below.

Draft Registration Statement on Form S-1

Business
INDIGO Trial – Our Ongoing Phase 3 Trial in IgG4-RD, page 109

17. *Please disclose the number of patients enrolled in the INDIGO trial to date. Please provide similar information for the SApHiAre Trial on page 111.*

Response to Comment 17: The Company acknowledges the Staff's comment and respectfully advises the Staff that the Company does not believe it is necessary to disclose the number of patients enrolled in its INDIGO Trial to date in order to provide investors with meaningful information regarding the status of the trial because the anticipated timing for completing enrollment of the trial is disclosed in the Draft Registration Statement and the Company will update that disclosure if the anticipated timing changes. The Company believes that the anticipated timing for completing enrollment of the INDIGO Trial is the information that is relevant for investors to understand the status and expected timing of development for obexelimab for the treatment of patients with IgG4-RD and that disclosing the number of patients enrolled in the INDIGO Trial is not necessary for the following reasons. First, enrollment in clinical trials does not occur at a consistent linear pace and is impacted by factors such as the timing of the opening of clinical sites, and the Company respectfully submits that disclosing the specific number of patients enrolled to date in its INDIGO Trial may unnecessarily and inaccurately suggest that the time it will take to complete enrollment of the trial should be based on the time it has taken to enroll patients to date. As disclosed in the Draft Registration Statement, the INDIGO Trial is on track to complete enrollment by the end of 2024 but the Company does not anticipate that enrollment in the trial will occur in a linear fashion. Second, the exact number of patients the Company intends to enroll in the INDIGO Trial is an estimate subject to change based on statistical analysis and powering assumptions agreed upon with the FDA and, if sufficient data is obtained from participating patients, the Company could be in a position to conclude enrollment of the INDIGO Trial without enrolling the entire 200 patients estimated and disclosed in the description of the INDIGO Trial. Therefore, the disclosure of the number of patients enrolled in the INDIGO Trial to date is not necessarily entirely indicative of progress towards the completion of the trial. The Company also respectfully submits to the Staff that it is not necessary to disclose the number of patients enrolled to date in the Phase 2 safety and dose confirmation run-in period of the SApHiAre Trial because the Company does not expect enrollment in the trial will be linear and, importantly, because the trial is an open-label trial. Open-label trials generate clinical data as patients are enrolled in the trial, and the Company intends to report data from the open-label portion of the SApHiAre Trial in the fourth quarter of 2024, regardless of the number of patients enrolled as of such date. Therefore, the number of patients enrolled in the SApHiAre Trial is not indicative of the status towards completion of the trial. The Company will update the disclosure in the Registration Statement to clarify that it expects to report data from the SApHiAre Trial in the fourth quarter of 2024 based on the number of patients enrolled as such date.

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July 16, 2024

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)