



DIVISION OF  
CORPORATION FINANCE

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

June 21, 2024

Fred Aslan  
Chief Executive Officer  
Artiva Biotherapeutics, Inc.  
5505 Morehouse Drive, Suite 100  
San Diego, CA 92121

**Re: Artiva Biotherapeutics, Inc.  
Amendment No. 1 to Draft Registration Statement on Form S-1  
Submitted June 10, 2024  
CIK No. 0001817241**

Dear Fred Aslan:

We have reviewed your amended draft registration statement and have the following comments.

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 a comment applies 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 this letter and your amended draft registration statement or filed registration statement, we may have additional comments. Unless we note otherwise, any references to prior comments are to comments in our May 30, 2024 letter.

Amendment No.1 to Draft Registration Statement on Form S-1 submitted June 10, 2024

Our Strengths, page 115

1. We note your response to prior comment 14, which we reissue. Please revise to define terms including "overall response rate," "complete response," "partial response," "ongoing response," "stable disease," and "progressive disease," as determined by the Lugano 2014 criteria. Additionally, explain how such responses are measured using CT and PET imaging assessments in your clinical trials or otherwise advise.

AlloNK Clinical Development in LN, page 128

2. You disclose that the primary efficacy endpoint is the overall renal response rate (ORRR) defined as the proportion of subjects having either a complete renal response (CRR) or

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partial renal response (PRR). Please revise to define terms CRR and PRR.

Please contact Sasha Parikh at 202-551-3627 or Lynn Dicker at 202-551-3616 if you have questions regarding comments on the financial statements and related matters. Please contact Lauren Sprague Hamill at 303-844-1008 or Jason Drory at 202-551-8342 with any other questions.

Sincerely,

Division of Corporation Finance  
Office of Life Sciences

cc: Carlos Ramirez