



DIVISION OF
CORPORATION FINANCE

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

July 3, 2024

Thomas A. Keuer
President and Chief Operating Officer
ARCA biopharma, Inc.
10170 Church Ranch Way, Suite 100
Westminster, CO 80021

Re: ARCA biopharma, Inc.
Amendment No. 1 to Registration Statement on Form S-4
Filed June 18, 2024
File No. 333-279387

Dear Thomas A. Keuer:

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

Please respond to this letter by amending your registration statement and providing the requested information. 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 any amendment to your registration statement and the information you provide in response to this letter, we may have additional comments. Unless we note otherwise, any references to prior comments are to comments in our June 11, 2024 letter.

Amendment No. 1 to Registration Statement on Form S-4

Oruka's Pipeline, page 214

1. We note your response to prior comment 11 and your revised disclosure on page 214. We note that the pipeline table does not provide an indication for ORKA-003 or "Combinations." Given the status of development and limited disclosure regarding the programs for ORKA-003 and "Combinations," it does not appear appropriate to highlight these programs in your pipeline table. If these programs are material to your business to warrant inclusion in your pipeline table, please expand your disclosure in your Business section to provide a more fulsome discussion of these programs, including descriptions of preclinical studies or other development activities conducted. Alternatively, please remove these programs from the pipeline table or advise.
2. Please revise your pipeline table to include columns of equal width for each of Phase 1, Phase 2 and Phase 3 of clinical testing.

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Please contact Jenn Do at 202-551-3743 or Kevin Kuhar at 202-551-3662 if you have questions regarding comments on the financial statements and related matters. Please contact Tamika Sheppard at 202-551-8346 or Joshua Gorsky at 202-551-7836 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Brent D. Fassett