

April 12, 2021

VIA EDGAR AND HAND DELIVERY

File No. 377-04224

United States Securities and Exchange Commission
Division of Corporation Finance
Office of Life Sciences
100 F Street, N.E.
Washington, D.C. 20549-6010

Attention: Dillon Hagius and Ada D. Sarmento

Re: **Biomea Fusion, Inc.**
Registration Statement on Form S-1
Publicly filed on March 26, 2021
File No. 333-254793

Ladies and Gentlemen:

On behalf of Biomea Fusion, Inc. (the "**Company**" or "**Biomea**"), we are hereby filing Amendment No. 1 ("**Amendment No. 1**") to the Registration Statement on Form S-1 ("**Registration Statement**"). The Company previously filed a Registration Statement on Form S-1 on March 26, 2021 to the U.S. Securities and Exchange Commission (the "**Commission**"). Amendment No. 1 has been revised to reflect the Company's responses to the comment letter received on April 2, 2021 from the staff of the Commission (the "**Staff**").

For ease of review, we have set forth below each of the numbered comments of your letter in bold type followed by the Company's responses thereto.

LATHAM & WATKINS^{LLP}

Registration Statement on Form S-1

Prospectus Summary

Overview, page 1

1. We note your response to prior comment 2 regarding the two programs in your pipeline table on page 2 with undisclosed targets which appear to be in the discovery phase. Since your filing contains minimal discussion of these two programs, it appears that these programs are not sufficiently material to your operations to warrant inclusion in the pipeline table. Please remove these two programs. We also believe that Optimization should be depicted under the Discovery column. A textual discussion of the program is a more appropriate place to make distinctions regarding different segments within a particular phase. Please revise accordingly.

Response: The Company acknowledges the Staff's comment and advises the SEC that it has revised pages 2, 107 and 114 of Amendment No. 1 accordingly.

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LATHAM & WATKINS LLP

We hope the foregoing answers are responsive to your comments. Please do not hesitate to contact me by telephone at (415) 395-8198 or by fax at (650) 463-2600 with any questions or comments regarding this correspondence.

Very truly yours,

/s/ Miles P. Jennings

Miles P. Jennings
of LATHAM & WATKINS LLP

cc: Thomas Butler, Biomea Fusion, Inc.
Rainer (Ramses) Erdtmann, Biomea Fusion, Inc.
Brian Cuneo, Latham & Watkins LLP
Charles Kim, Cooley LLP
Jonie Kondracki, Cooley LLP