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December 14, 2022

CORRESPONDENCE FILED VIA EDGAR

Office of Life Sciences
Division of Corporation Finance
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549
Attention: Ada D. Sarmento & Dillon Hagius

Re: Sesen Bio, Inc.
Amendment No. 1 to Registration Statement on Form S-4
Filed November 22, 2022
File No. 333-267891

Dear Ms. Sarmento & Mr. Hagius:

This letter sets forth responses of Sesen Bio, Inc., a Delaware corporation (the "***Company***"), to the comments set forth in the comment letter of the staff of the Securities and Exchange Commission (the "***Staff***"), dated December 7, 2022 (the "***Comment Letter***"), relating to Amendment No. 1 to the Registration Statement on Form S-4 (File No. 333-267891) (the "***Registration Statement***"). The Company has also revised the Registration Statement in response to the Staff's comments, and, concurrently with delivery of this letter, filed with the Securities and Exchange Commission an amendment to the Registration Statement which reflects these revisions ("***Amendment No. 2***").

To assist your review, set forth below in bold are the comments of the Staff contained in the Comment Letter and immediately below each comment is the response of the Company with respect thereto or a statement identifying the location in the Registration Statement of the requested disclosure or revised disclosure. Please note that all references to page numbers in our responses refer to the page numbers of Amendment No. 2. Capitalized terms used but not defined herein have the meanings ascribed to such terms in Amendment No. 2.

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

Cover Page

1. **It appears that the shares to be sold in the Carisma pre-closing financing are included in the shares to be registered in this registration statement. The investors in the Carisma pre-closing financing made their investment decision in a private offering and, therefore, the sale must close privately. Please remove the Carisma pre-closing financing shares from the registration statement.**

Response to Comment 1:

The shares of Sesen Bio common stock to be issued in exchange for shares of Carisma common stock, which will have been previously issued in the Carisma pre-closing financing have been removed from the registration statement.

Carisma Business, page 234

2. We note your revisions in response to comment 17. Please revise the first chart on page 240 to remove the reference to the "therapeutic efficacy" of Carisma's approach.

Response to Comment 2:

In response to the Staff's comment, the Company has revised the disclosure on page 250.

Carisma's Pipeline Programs, page 235

3. We note your response to prior comment 19 and re-issue. Please explain why CT-0525 is sufficiently material to Carisma's business to warrant inclusion in the pipeline table.

Response to Comment 3:

In response to the Staff's comment, we respectfully advise the Staff that the Company strongly believes that CT-0525 is sufficiently material to Carisma's business to warrant inclusion in the pipeline table and has provided a detailed analysis below.

As background, the Company would like to remind the Staff that one of Carisma's key strategies is to invest in its CAR-Mono platform technology to further extend its efforts in macrophage and monocyte based cellular therapy. Currently, Carisma's CAR-M platform requires differentiation of circulating monocytes into macrophage *ex vivo* prior to transduction with Ad5f35 to express the CAR. *Ex vivo* differentiation takes approximately one week and is associated with the loss of a fraction of cells during the differentiation process. Carisma hypothesized that monocytes could be directly engineered to express CARs, shortening the *ex vivo* manufacturing process from approximately eight days to approximately one to two days. By bypassing *ex vivo* differentiation, in Carisma's CAR-Mono platform, CAR monocytes will be administered to patients, wherein they will traffic to and enter tumor tissue, differentiating into macrophages *in vivo* rather than *ex vivo*. CT-0525 is Carisma's first anti-HER2 CAR-Mono product candidate and, accordingly, is material to Carisma's development strategy and essential to a prospective investor's understanding of Carisma's strategy, capabilities and development efforts to-date.

While CT-0525 and CT-0508 share a similar target, solid tumors that overexpress HER2, there are several important distinctions between the two product candidates. For example, in comparison to CT-0508, CT-0525 (i) does not require *ex vivo* differentiation into macrophages, (ii) increases the cell yield enabling a larger potential dose, which may improve tumor control, (iii) has improved tumor killing potential, and (iv) uses a different automated, closed-system manufacturing process that reduces manufacturing time. Notably, the FDA considers CT-0525 and CT-0508 to be two distinct product candidates. As indicated in the Registration Statement, Carisma expects to submit an IND for CT-0525 in the second half of 2023, followed by initiation of a Phase 1 clinical trial, which represent significant milestones for Carisma.

Further, as indicated in the Registration Statement in "*Carisma Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Funding Requirements*," Carisma expects to use approximately $28.0 million to $35.0 million of the expected cash balances of the combined company as of the closing of the merger for the advancement of CT-0525, which is significantly more than the amount allocated for CT-1119 or CT-0729.

After careful consideration of the foregoing, the Company strongly believes that CT-0525 is sufficiently material to Carisma's business to warrant inclusion in the pipeline.

Carisma's Strategy, page 237

4. We note your response to prior comment 18 and re-issue in part. Please revise your statement on page 237 that you intend to "[r]apidly advance" CT-0508 through clinical development to remove any implication that Carisma will be able to advance its product candidates in a rapid or accelerated manner.

Response to Comment 4:

In response to the Staff's comment, the Company has revised the disclosure on page 248.

Thank you for your consideration of the points contained in our responses. Please contact me at (267) 675-4671 or steve.abrams@hoganlovells.com if you have any questions or need any additional information.

Sincerely

/s/ Steven J. Abrams

Steven J. Abrams
Partner, Hogan Lovells US LLP

Via E-mail:

cc: Thomas R. Cannell, D.V.M., President and Chief Executive Officer, Sesen Bio, Inc.
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