



DIVISION OF  
CORPORATION FINANCE

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

May 16, 2022

Jeffrey S. Hackman  
President and Chief Executive Officer  
Comera Life Sciences Holdings, Inc.  
12 Gill Street  
Suite 4650  
Woburn, Massachusetts 01801

**Re: Comera Life Sciences Holdings, Inc.**  
**Registration Statement on Form S-1**  
**Filed May 5, 2022**  
**File No. 333-264686**

Dear Mr. Hackman:

We have limited our review of your registration statement to those issues we have addressed in our comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply 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 these comments, we may have additional comments.

Registration Statement on Form S-1

Cover Page

1. We note the significant number of redemptions of OTR Acquisition Corp.'s Class A common stock in connection with your business combination and that the shares being registered for resale will constitute a considerable percentage of your public float. We also note that all of the shares being registered for resale were purchased by the selling securityholders for prices considerably below the current market price of OTR Acquisition Corp.'s Class A common stock. Highlight the significant negative impact sales of shares on this registration statement could have on the public trading price of the Class A common stock following your business combination.

2. Please revise here and throughout to update your disclosures throughout the filing and address areas that appear to need updating or that present inconsistencies. Non-exclusive examples of areas where disclosure should be updated are as follows:
  - Disclose whether the Business Combination has been completed. To the extent the Business Combination has been consummated, please tell us why it is material to investors to present a discussion of the mechanics of the Business Combination in the Prospectus Summary.
  - Your disclosure on page 108 indicates that the results of one of your clinical studies are "expected to be available by February 2022."
  - Your disclosure on page 133 indicates that you expect to pay an annual basis to certain of your named executive officers in the first quarter of calendar year 2022.
  - Your Principal Stockholders table should show beneficial ownership following the Business Combination.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 93

3. In light of the significant number of redemptions and the possibility that the company will not receive significant proceeds from exercises of the warrants, expand your discussion of capital resources to address any changes in the company's liquidity position since the business combination. If the company is likely to have to seek additional capital, discuss the effect of this offering on the company's ability to raise additional capital.
4. Please expand your discussion on page 94 regarding the impact of sales of common stock made pursuant to the registration statement on the price of your common stock to highlight the fact that, based on the disclosure in the Principal Stockholders table and data regarding redemptions of OTR Acquisition Corp.'s Class A common stock, four beneficial owners whose aggregate ownership totals approximately 95% of your outstanding shares, will be able to sell all of their shares for so long as the registration statement of which this prospectus forms a part is available for use.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Alan Campbell at 202-551-4224 or Celeste Murphy at 202-551-3257 with any questions.

Jeffrey S. Hackman  
Comera Life Sciences Holdings, Inc.  
May 16, 2022  
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Sincerely,

Division of Corporation Finance  
Office of Life Sciences

cc: Janeane Ferrari, Esq.