

May 16, 2022

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

Sciences Holdings, Inc.
Statement on Form S-1

Re: Comera Life
Registration
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.

Jeffrey S. Hackman
FirstName LastName Jeffrey S. Hackman
Comera Life Sciences Holdings, Inc.
Comapany Name Comera Life Sciences Holdings, Inc.
May 16, 2022

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FirstName LastName

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

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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,

FirstName LastName Jeffrey S. Hackman

Division of Corporation

Finance

Comapany Name Comera Life Sciences Holdings, Inc.

Office of Life Sciences

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cc: Janeane Ferrari, Esq.

FirstName LastName