

Via EDGAR
 Suzanne Hayes
 Assistant Director
 Office of Healthcare and Insurance
 Division of Corporate Finance
 Securities and Exchange Commission
 100 F Street, N.E.
 Washington, D.C. 20549

**Re: Leap Therapeutics, Inc.
 Amendment No. 1 to
 Registration Statement on Form S-4
 Filed November 1, 2016
 File No. 333-213794**

Dear Ms. Hayes:

This letter sets forth the response of Leap Therapeutics, Inc. (the "Company") to the comment letter, dated November 15, 2016, of the staff of the Division of Corporation Finance (the "Staff") of the Securities and Exchange Commission (the "SEC") to Amendment No. 1 to the Registration Statement on Form S-4 (File No. 333-213794) (the "Amended Registration Statement"). For your convenience, the Staff's comments have been repeated below in their entirety, with the Company's response to a particular comment set out immediately underneath it. The headings and numbered paragraphs in this letter correspond to the headings and numbered paragraphs in the comment letter from the Staff. This letter is being filed with the SEC in connection with Amendment No. 2 to the Registration Statement (the "Second Amended Registration Statement"). Any capitalized terms used herein, but not defined shall have the meanings ascribed to them in the Amended Registration Statement.

Questions and Answers about the Merger and the Special Meeting

Q: What will Macrocare shareholders receive if the merger is consummated?, page 5

- We note your revision to the cover page of your prospectus in response to our prior comment four. Please revise the second paragraph of this section to include the number of shares of common stock to be issued for each Macrocare share based on range of possible net cash values. Please ensure that your disclosure includes the number of shares of common stock to be issued if Macrocare's net cash is determined to be zero.**

Response: In response to the Staff's comment, the Company has expanded its response to the question "Q: What will Macrocare shareholders receive if the merger is consummated?" beginning on page 4 of the prospectus included in the Second Amended Registration Statement to include the number of shares of common stock to be issued for

each Macrocare share based on a range of possible net cash values, including the number of shares of common stock to be issued if Macrocare's net cash is determined to be zero.

Notes to Unaudited Pro Forma Condensed Combined Financial Statements

Shares to be issued by Leap in exchange for outstanding ordinary shares of Macrocare, page 12

- Refer to your response to our prior comment 32 and tell us why Series C Preferred stock converts to common stock at a one-to-one ratio. It does not appear that you issued Series C Preferred stock at its conversion price of \$2.39 per share.**

Response: In response to the Staff's comment, we respectfully note that Leap's Series C Preferred Stock was issued at a price of \$2.39 per share as merger consideration in the merger with GTR, Inc. This price per share was calculated as the quotient of (i) Leap's implied valuation in that transaction divided by (ii) the number of shares of Leap common stock then outstanding on a fully diluted basis. However, we need to update and correct our prior response 32 that shares of Series A, B and C Preferred Stock all converted at a ratio of one-to-one. While true at the original issuance of such shares, an anti-dilution adjustment in the preferred stock will be triggered by conversion of the notes into common stock upon closing of the merger. At June 30, 2016, the Company expected the notes to convert at a price per share less than Series C original issuance price of \$2.39 (but above the Series A and B conversion prices of \$1.00), thus resulting in an anti-dilution adjustment to only the Series C Preferred Stock shares. Now, however, in the pro forma information presented in the Second Amended Registration Statement as of September 30, 2016, the notes are expected to convert at a price per share less than \$1.00. As a result, as of September 30, 2016, there will be anti-dilution adjustments for all series of preferred stock (Series A, B and C) and accordingly no series of the preferred stock will convert on a 1:1 basis.

The Merger

Background of the Merger, page 58

- We note your disclosure on page 59 that on March 7, 2016, Mr. Mashiach and Mr. Onsi discussed relative equity ownership, valuation, board representation and due diligence. Please expand your disclosure to provide more details about the contents of these discussions, including Macrocare's and Leap's positions, if any, on these topics.**

Response: In response to the Staff's comment, the Company has expanded its disclosure in the "Background of the Merger" section beginning on page 58 of the prospectus included in the Second Amended Registration Statement to provide additional details regarding the contents of

Mr. Mashiach and Mr. Onsi's discussion on March 7, 2016, including Macrocare's and Leap's positions, on the topics discussed.

4. **We note your disclosure on page 59 that at the board meeting held on March 15, 2016, the directors considered both the indication of potential interest from Leap as well as from another private company focused on biotherapeutics, but decided to move forward with Leap. Please expand your disclosure to discuss why you decided to move forward with Leap and not with the other private company.**

Response: In response to the Staff's comment, the Company has expanded its disclosure in the "Background of the Merger" section beginning on page 58 of the

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prospectus included in the Second Amended Registration Statement to discuss why Macrocare decided to move forward with Leap and not with the other private company.

Likelihood of Consummation, page 67

5. **We note your response to our prior comment 26 and reissue in part. Please revise your disclosure in the first bullet point of this section to discuss the condition that Macrocare obtain the Section 104H Tax Ruling from the Israel Tax Authority. Please also revise your disclosure in the discussion of Regulatory Approvals on page 100 to provide that the merger agreement requires the approval of the Israel Registrar of Companies and that Macrocare obtain the Section 104H Tax Ruling from the Israel Tax Authority.**

Response: In response to the Staff's comment, the Company has revised its disclosure in the first bullet point of the "Likelihood of Consummation" section beginning on page 67 of the prospectus included in the Second Amended Registration Statement to discuss the condition that Macrocare obtain the Section 104H Tax Ruling from the Israel Tax Authority. The Company has also revised its disclosure in the "Regulatory Approvals" section beginning on page 100 of the prospectus included in the Second Amended Registration Statement to provide that the merger agreement requires the approval of the Israel Registrar of Companies and that Macrocare obtain the Section 104H Tax Ruling from the Israel Tax Authority.

Business

Our Products, page 132

6. **Please revise your chart so that it accurately reflects the stage for each of your products and particular indications. For example, the chart suggests that DKN-01 has completed Phase 1/2 trials for both DKN-01 while the disclosure indicates that Phase 1/2 trials are ongoing. The disclosure also suggests that TRX518 is in Phase 1 but the chart states that it is in Phase 1/2. Please revise the graph as appropriate.**

Response: In response to the Staff's comment, the Company has revised the chart included in the "Our Products" section beginning on page 132 of the prospectus included in the Second Amended Registration Statement so that it accurately reflects the stage for each of the Company's products and particular indications.

DKN-01, page 132

7. **We note your revisions in response to our prior comment 36. However, we note your statement on page 140 that single doses of TRX518 have been well tolerated and have been found to be safe with dose proportionate increases in TRX518 exposure. Please revise to remove this statement, as it is premature for you to describe your clinical stage products as safe.**

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Response: The Company respectfully acknowledges the Staff's comment. In response to the Staff's comment, the Company has removed the language that appeared on page 140 of the Amended Registration Statement that single doses of TRX518 have been well tolerated and have been found to be safe with dose proportionate increases in TRX518 exposure.

Lonza License Agreement, page 144

8. **We note your response to our prior comment 41 that you have not included the royalty rate as you have applied for confidential treatment for certain portions of the Lonza Agreement, including the royalty rate. However, we consider royalty rates to be material information to investors. As such, please revise your disclosure to include the potential range of royalty payments (for example, "low single digits" or "high single digits").**

Response: In response to the Staff's comment, the Company has revised its disclosure in the "Lonza License Agreement" section beginning on page 144 of the prospectus included in the Second Amended Registration Statement to include a potential range of royalty payments.

Thank you for your prompt attention to the Company's response to the Staff's comments. Please contact me at (617) 951-8575 or Douglas E. Onsi, Chief Financial Officer at the Company, at 617-218-1116 with any questions or further comments regarding our response to the Staff's comments.

Sincerely,

/s/ William S. Perkins

William S. Perkins

cc: Keira Nakada, U.S. Securities and Exchange Commission

James Rosenberg, *U.S. Securities and Exchange Commission*
Irene Paik, *U.S. Securities and Exchange Commission*
Erin Jaskot, *U.S. Securities and Exchange Commission*
Christopher K. Mirabelli, *Leap Therapeutics, Inc.*
Douglas E. Onsi, *Leap Therapeutics, Inc.*
Julio E. Vega, *Morgan, Lewis & Bockius LLP*
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