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

DIVISION OF
CORPORATION FINANCE

May 1, 2019

Sam Backenroth
Chief Financial Officer
Ohr Pharmaceutical Inc.
800 Third Avenue, 11th Floor
New York, NY 10022

Re: Ohr Pharmaceutical Inc
Amendment No. 1 to Registration Statement on Form S-4
Filed April 16, 2019
File No. 333-230168

Dear Mr. Backenroth:

We have reviewed your amended registration statement and have the following 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. Unless we note otherwise, our references to prior comments are to comments in our April 8, 2019 letter.

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

Summary, page 15

1. We acknowledge your revised disclosures in response to prior comment 4. Please revise your statements regarding drug development using the PATRoL platform to explain its mechanism in a manner a lay person would understand, including by defining the terms "chiral" and "stereoisomer." In addition, balance this disclosure by noting that all of NeuBase's programs are in the research or preclinical stage and that NeuBase's approach to nucleic acid therapeutics is novel, as you more thoroughly explain on pages 67-68.

2. Please revise your registration statement to present the estimated aggregate number of pre-split shares that will be issued to NeuBase shareholders in the merger.

Risk Factors
Risks Related to the Merger, page 37

3. Please provide a separate risk factor discussion disclosing that Roth's fairness opinion relies on projections provided by NeuBase, which do not consider the possibility that NeuBase product candidates do not receive FDA approval. Your discussion should address the possible consequences if the NeuBase product candidates do not obtain FDA approval.

The combined company's amended and restated certificate of incorporation will provide. . ., page 120

4. We acknowledge your revised disclosure in response to prior comment 7 and your revisions in Annex C. Please further revise to clarify that the exclusive forum provision also does not apply to Exchange Act claims.

Opinion of Ohr's Financial Advisor, page 150

5. We note that Roth used the described analyses to determine a range of "implied enterprise values" for NeuBase. Generally, the "implied enterprise value" is implied by the terms of the merger, not determined by valuation analyses. Please revise your discussion to clearly identify the implied enterprise value of NeuBase based on the terms of the merger agreement and ensure that the enterprise value based on Roth's analyses are clearly distinguishable from the enterprise value implied by the terms of the merger.

6. We note your revised disclosures in response to prior comment 16. Please clarify that the enterprise value range determined by Roth consists of $56.8 million using the low end of the range calculated using the discounted cash flow analysis and $342.8 million, the mean calculated using the Publicly Traded Company Analysis. Please also explain the how Roth calculated the "average implied enterprise value" of $140.9 million and $237.4 million and the basis for the belief that the NeuBase enterprise value falls within the range of the comparable company values.

7. Please further revise your disclosure regarding the discounted cash flow analysis to explain how the success rate probabilities were applied to the NeuBase projections. You state that Roth applied the probabilities for each phase of clinical development. Please explain how the cash flows for the indicated years were adjusted. In addition, your revised disclosure indicates that you did not consider the separate possibility that the Neubase product candidates do not successfully complete clinical trials. Please explain why.

Consideration Analysis, page 155

8. Please clarify whether the number of shares to be issued and December 31, 2018 and 20-day volume weighted average trading price were pre-reverse split or adjusted to reflect the

February 4, 2019 reverse stock split. Additionally, clarify the time period used to calculate the 20-day volume weighted average.

Discounted Cash Flow Analysis, page 158

9. We note that Roth applied a "probability of success" adjustment based on Clinical Development Success Rates 2006-2015. Please explain how Roth calculated the average probability of continued clinical development at each phase of development. The disclosure appears to imply that 100% of product candidates under development for neurological and rare diseases between 2005 and 2016 successfully advanced through preclinical and Phase I trials. Please clarify whether all INDs for neurology and rare diseases was considered in calculating the 100% or a subset of all product candidates.

10. Please explain the rationale behind adjusting projected unlevered cash flow to account for the probability of success when the projected revenues are based on the assumption that NT0100- Huntington's Disease and NT0200-Myotonic Dystrophy are approved by the FDA and begin generating revenue in 2024 and 2025, respectively. In other words, since FDA approval is necessary to generate any of the projected revenues, a valuation based on 30.4% of projected revenues does not appear to contemplate either of the mutually exclusive outcomes for either product candidate.

NeuBase Projections, page 160

11. Please revise to clarify whether the projections presented in this section have been revised by Roth in accordance with the methodology described on page 158 or if these were the projections provided by NeuBase.

Material U.S. Federal Income Tax Consequences of the Merger
U.S. Federal Income Tax Consequences of the Merger Generally, page 172

12. We note your revised disclosures in response to prior comment 20. Please further revise to remove language from the header of this section indicating that these are tax consequences "generally." Please also clearly state that the disclosure in this section is the opinion of the respective counsels.

NeuBase Executive Compensation, page 226

13. We note your revised disclosure on page 226 in response to prior comment 21 that certain compensation tables have been omitted because there was no activity to report. However, you also state that the employment agreement with Dr. Stephan was effective as of August 28, 2018, prior to your September 30 year end, and that options vested commencing on August 28th. Please reconcile your disclosures. In addition, please file the employment agreement with Dr. Stephan.

Compensation of Neubase Directors, page 228

14. Your revised disclosure states that following the merger, non-employee directors are expected to be granted a stock option to purchase common stock in an amount that represents approximately 1% of the total common stock of the combined company on a fully diluted basis. Revise to clarify whether this amount is for each non-employee director or all non-employee directors in the aggregate.

License Agreement with Carnegie Mellon University, page 264

15. We note your revised disclosures and response to prior comment 28. However, disclosures regarding total payments made to date and the aggregate amount of all your potential milestone payments are material information. We are only able to grant confidential treatment for individual milestone amounts if the aggregate amounts of payments made to date and aggregate potential payments are disclosed. Also revise to clarify that if NeuBase challenges the validity of intellectual property, Carnegie Mellon is the party with the termination ability.

You may contact Ibolya Ignat at 202-551-3636 or Angela Connell at 202-551-3426 if you have questions regarding comments on the financial statements and related matters. Please contact Dorrie Yale at 202-551-8776 or Suzanne Hayes at 202-551-3675 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Joseph Walsh, Esq. - Troutman Sanders LLP