Troutman Sanders LLP
875 Third Avenue
New York, New York 10022

troutman.com

Joseph Walsh
D 212.704.6030
Joseph.Walsh@troutman.com

May 22, 2019

VIA EDGAR AND FEDERAL EXPRESS

United States Securities and Exchange Commission
Division of Corporation Finance
Office of Healthcare & Insurance
100 F Street, N.E.
Washington, D.C. 20549

Re: Ohr Pharmaceutical, Inc.
Amendment No. 2 to Registration Statement on Form S-4
Filed May 7, 2019
File No. 333-230168

Ladies and Gentlemen:

On behalf of Ohr Pharmaceutical, Inc., a Delaware corporation (the "Company"), we have electronically transmitted the following: (1) this letter, and (2) Amendment No. 3 to Registration Statement on Form S-4 ("Amendment No. 3"). We have also sent to you by Federal Express courtesy copies of the following: (i) this letter, and (ii) a clean copy of Amendment No. 3, as well as a copy which has been marked to show changes from the Company's Amendment No. 2 to Registration Statement on Form S-4 (File No. 333-230168) (the "Registration Statement"), filed by the Company on May 7, 2019.

Set forth below are the Company's responses to the comments raised in the May 17, 2019 comment letter of the Staff (the "Staff") of the Securities and Exchange Commission (the "Commission"). For your convenience, we have provided each of the Staff's comments followed by the Company's responses.

All responses provided in this letter are based solely on information provided by the Company.

Amendment No. 2 to Form S-4
Summary, page 15

1. *We acknowledge your revised disclosures in response to prior comment 1. Please further revise your disclosures to remove the statement that the PATrol platform enables rapid drug development, as drug development encompasses the regulatory approval process. We will not object to a statement that the platform allows for a more efficient discovery of drug product candidates, if accurate*

Response: The Company has revised its disclosure on pages 15 and 257 of Amendment No. 3 to address the Staff's comment.

Opinion of Ohr's Financial Advisor
Discounted Cash Flow Analysis, page 158

2. *As previously noted in prior comment 9, please further revise your disclosure to clarify whether all INDs for neurology and rare diseases was considered in calculating the 100% or a subset of all product candidates, as your disclosure appears to imply that 100% of product candidates under development for neurological and rare diseases between 2005 and 2016 successfully advanced through preclinical trials to Phase 1.*

Response: The Company has revised its disclosure on page 158 of Amendment No. 3 to address the Staff's comment.

NeuBase's Business
License Agreement with Carnegie Mellon University, page 265

3. *We acknowledge your response to prior comment 15. However, as previously noted, please revise your disclosure to include all payments made to date under the agreement. For example, it appears that certain payments have been made pursuant to Section 9.2 of the agreement. In addition, please clarify that your exclusive right is subject to Carnegie Mellon's right to grant nonexclusive licenses to third parties as a means to resolve disputes or settle claims, as described in Section 2.6 of the agreement.*

Response: The Company has revised its disclosure on page 266 of Amendment No. 3 to address the Staff's comment.

* * * *

As requested, the Company acknowledges that the Company and its management are responsible for the adequacy and accuracy of their disclosures, notwithstanding any review, comments, action or absence of action by the Staff.

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Please do not hesitate to contact the undersigned at (212) 704-6030, if you have any questions or comments regarding the filing or this letter.

Very truly yours,

/s/ Joseph Walsh, Esq.

Joseph Walsh, Esq.

cc: *Securities and Exchange Commission*
Angela Connell
Suzanne Hayes
Ibolya Ignat
Dorrie Yale

Ohr Pharmaceutical, Inc.
Dr. Jason Slakter, Chief Executive Officer
Sam Backenroth, Chief Financial Officer

NeuBase Therapeutics, Inc.
Dr. Dietrich Stephan

Troutman Sanders LLP
Aurora Cassirer, Esq.

Paul Hastings, LLP
Jeffrey T. Hartlin, Esq.