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

DIVISION OF
CORPORATION FINANCE

May 1, 2014

Via E-Mail
Edward F. Smith
Chief Financial Officer
Marinus Pharmaceuticals, Inc.
142 Temple St., Suite 205
New Haven, CT 06510

Re: Marinus Pharmaceuticals, Inc.
Confidential Draft Registration Statement on Form S-1
Submitted April 4, 2014
CIK No. 0001267813

Dear Mr. Smith:

We have reviewed your draft 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

General

1. If our comments are applicable to portions of the filings that we have not cited as examples, please make the appropriate changes elsewhere in the filing in accordance with our comments.

2. Please submit all exhibits as soon as practicable. We may have further comments upon examination of these exhibits.

3. Please confirm that the graphics included in your registration statement are the only graphic, visual, or photographic information you will use in your prospectus. If those are not the only graphics, please provide any additional graphics prior to their use for our review.

4. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications. Similarly, please supplementally provide us with any research reports about you that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.

Summary Financial Data, page 9
Selected Financial Data, page 55

5. Please add the Inception to December 31, 2013 column on these two schedules or tell us, citing specific authoritative literature, why they have not been included.

Risk Factors
"Ganaxolone may cause undesirable side effects …" page 17

6. Please revise this risk factor to clarify whether dizziness, fatigue and somnolence were the most severe side effects reported in your earlier-stage clinical trials

Use of Proceeds, page 50

7. Please expand the second bullet point to specify what stage of preclinical studies, clinical trials, manufacturing scale-up and bridging studies and other critical path activities for ganaxolone in patients with focal onset seizures you expect to be able to fund with the anticipated allocation of proceeds from this offering.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and Significant Judgments and Estimates
Warrant Liability, page 64

8. You state that "We estimate the warrant fair values using option pricing models which include inputs which we estimate, including the expected term of the warrants, expected volatility and the estimated fair value of the underlying preferred stock." Please provide more detailed information including the specific valuation model(s) and methods used and why that model(s) was selected.

Stock-Based Compensation, page 64

9. As you have not disclosed an estimated offering price we are deferring a final evaluation of your stock compensation accounting and disclosures until the estimated offering price is specified. We may have further comment in this regard when the amendment containing an estimated offering price is filed. Please continue to update your tabular

disclosure on page 65 for any new option grants or other equity issuances and discuss how you determined the fair value. Provide us with a quantitative and qualitative analysis explaining the difference between the estimated offering price and the fair value of recent equity issuances.

Business, page 68

10. Please revise your disclosure to describe the INDs submitted in connection with your clinical trials of ganaxolone in focal onset epilepsy, PTSD, and FXS, and disclose when each IND was filed and by whom. If you or someone else has not filed an IND for ganaxolone for any such indication or has filed an IND for a different indication, please explain the basis of your position that no IND filing or amendment was required.

11. Please expand your disclosure to describe the material terms of your arrangement(s) with the DoD, INTRuST, and/or the MIND Institute, including the following as may be applicable:
    - nature and scope of intellectual property rights granted;
    - each parties' rights and obligations;
    - duration of agreement;
    - termination provisions; and
    - material payment provisions.

    In addition, please file a copy of each agreement as an exhibit to your registration statement pursuant to Item 601(b)(10) of Regulation S-K.

Overview, page 68

12. Please expand your description of the preclinical studies showing that the GABA modulatory activity of ganaxolone is responsible for its anticonvulsive activity in epileptic seizures and its antianxiety effects on PTSD and FXSs, to clarify, if true, that these results were observed, but the study was not controlled, and no analysis for statistical significance was performed.

13. We note your statement that FXS is "the most common known genetic cause of autism." Please cite for us, with a view to revising your disclosure, your support for your conclusion that FXS is a known cause of autism.

Ganaxolone in Epilepsy
Clinical Trials for Epilepsy in Adults, page 73

14. Please revise your disclosure to explain what you mean by the following technical terms or concepts the first time each is used:
    - Titration;
    - The Kruskal-Wallis test;

- Kaplan-Meier analysis;
- Chi-square analysis;
- Mutagenicity;
- Responder analysis.

15. We note the table on page 73. Please revise your disclosure to explain what the numbers in parenthesis represent.

16. In the paragraph following the table on page 73, please revise your disclosure to explain what you mean by the intention-to-treat population.

17. Please revise your disclosure to explain what a p-value represents the first time you introduce this concept.

18. Please expand your discussion of the secondary endpoints of Study 600 to describe briefly the parameters in which statistically significant differences were measured and those that demonstrated observable trends.

19. Please expand your discussion of Study 601 to disclose whether the reduction in seizure frequency was statistically significant and, if so, disclose the p-values.

Ganaxolone Safety Overview, page 75

20. Please expand your discussion of your reproductive toxicology studies to explain briefly what Pregnancy Categories B, C, and D represent.

Collaborations—Purdue, page 82

21. Please expand your description of your Purdue license agreement to disclose:
    - the range of royalties within ten percent (e.g., high single-digits, low teens, etc.) payable to Purdue; and
    - any termination provisions.

    In addition, please file a copy of the agreement as an exhibit to your registration statement pursuant to Item 601(b)(10) of Regulation S-K.

Executive and Director Compensation
Employment Agreements, page 106

22. Please revise your descriptions of the employment agreements with Messrs. Cashman and Smith and Dr. Farfel to include the definitions of "cause" and "good reason."

Principal Stockholders, page 118

23. Please expand the discussion to identify the natural person(s) with voting or investment control over the securities owned by Foundation Medical Partners.

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide in the Division's October 11, 2012 announcement on the SEC website at http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm.

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may contact Jim Peklenk at (202) 551-3661 or Lisa Vanjoske at (202) 551-3614 if you have questions regarding comments on the financial statements and related matters. Please contact Amy Reischauer at (202) 551-3793, John Krug at (202) 551-3862 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Jeffrey P. Riedler

Jeffrey P. Riedler
Assistant Director

cc: Via E-Mail
John W. Kauffman
Duane Morris LLP
30 South 17th Street
Philadelphia, PA 19103-4196