

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

OVID THERAPEUTICS, INC.,
Petitioner

v.

MARINUS PHARMACEUTICALS, INC.,
Patent Owner

Case IPR2024-00726
Patent 11,110,100

DECLARATION OF HENRIKAS VAITKEVICIUS

I, Henrikas Vaitkevicius, declare as follows:

1. I was a Study Investigator for Marinus's Phase 2 clinical trial of intravenous ganaxolone for the treatment of refractory status epilepticus (Clinical Trial Registration No. NCT03350035). I was a full-time employee at Brigham and Women's Hospital and Harvard Medical School during the conduct of the trial. I have been employed by Marinus Pharmaceuticals, Inc., since September 2020 and am currently Vice President of Clinical Development.

2. I understand, as explained to me by Marinus's counsel, that certain of Ovid's challenges to Marinus's 11,110,100 patent (Exhibit 1001) rely on the disclosures in a series of four Marinus references related to the NCT03350035 trial (Exhibits 1008, 1009, 1010, and 1011). In particular, Ovid's challenge relates to whether or not non-inventor co-authors on those publications contributed to the invention of the subject matter that Ovid relies upon—"that the target dose of ganaxolone (713 mg/day) achieved plasma concentrations above 500 ng/ml for approximately 8 hours and also resulted in good seizure control." I discuss each of the references below, in chronological order.

I. Practical Neurology 2019 (Ex. 1010)

3. The first reference (Practical Neurology 2019, Exhibit 1010) is a news post from Practical Neurology that I understand the Petitioner asserts was published on October 18, 2019. I am quoted in the document discussing results of

Marinus's Phase II clinical trial. Exhibit 1010 states that "[t]he PK data show that the target dose of ganaxolone (713 mg/day) achieved plasma drug concentrations greater than 500 ng/mL for approximately 8 hours, the longest and highest duration of the 3 dosing groups."

4. Prior to October 18, 2019, I had presented the quoted results at the Neurocritical Care Society 17th Annual Meeting in Vancouver, BC. The meeting was held at the Vancouver Convention Center from October 15 to October 18, 2019. The Abstract for that presentation (Oral Abstract #2) was published online before the meeting (on October 1, 2019) as page S3 of *Neurocritical Care* 31:S1–S341 (2019) (doi:10.1007/s12028-019-00857-7) (Ex. 2003), which is available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7100118/>.

5. On October 17, 2019, after I presented the results at the Neurocritical Care Society meeting but before the Practical Neurology news post, Marinus published a Press Release highlighting the presentation itself as well as the results, including that the data "show[ed] that the target dose of ganaxolone (713 mg/day) achieved plasma drug concentrations greater than 500 ng/mL for approximately 8 hours, the longest and highest duration of the three dosing groups." (Ex. 2004.)

6. As a Study Investigator, I participated in the design, conduct, and analysis of the study. I did not, however, conceive of the specific dosing regimens

(including for the 713 mg/day cohort) used in the study, nor of maintaining plasma concentrations above 500 ng/ml for approximately 8 hours.

7. The dosing regimens for the study were provided to me (confidentially, as a Study Investigator), by Marinus scientists, including Heather Van Heusen and Maciej Gasior, both co-authors on the presentation (as shown in Exhibit 2003).

8. Likewise, the PK results disclosed first in my presentation at the Neurocritical Care Society meeting (and after that in the Marinus Press Release) showing that the target dose of ganaxolone (713 mg/day) administered as it was in the study achieved plasma concentrations above 500 ng/ml for approximately 8 hours and resulted in good seizure control were conveyed to me by Marinus scientists, including my co-author Dr. Maciej Gasior.

II. AES 2019 Poster (Ex. 1011) and Abstract (Ex. 1008)

9. On December 7, 2019, Marinus announced that it had presented additional data from its Phase 2 study at the December 2019 American Epilepsy Society (AES) Annual Meeting. (Ex. 2005.) These data included 4-week follow up data, showing additional evidence of efficacy. As noted in this press release, Dr. Eugene Ramsay, another Study Investigator and co-author on Exhibits 1008 and 1011, presented these results at the meeting.

10. Exhibit 1008 (the abstract) shows a “Published Date” of November 25, 2019. The poster itself (Exhibit 1011) would have been presented at the December meeting.

11. The poster and the corresponding abstract have the same title, although the list of authors on the abstract (Exhibit 1008) appears to be truncated compared to the poster. The abstract lists:

R. Eugene Ramsay . . . Aatif M. Hussain . . . Christa B.
Swisher . . . Steven Smith . . . Heather Van Heusen . . .
Julia Tsai . . .

and then cuts off at “Marinus Pharmac,” (without completing the word “Pharmaceuticals” or the remainder of the authors and affiliations, whereas the poster lists:

R. Eugene Ramsay . . . Aatif M. Hussain . . . Christa B.
Swisher . . . Steven Smith . . . Heather Van Heusen . . .
Julia Tsai . . . Lorianne Masouka . . . Maciej Gasior . . .
and [me].”

12. That truncation appears to be due to a technical issue. Separately indexed records of the Abstract (including bibliographic details and a summary) show the full list of authors. (Exhibit 2008, Declaration of Anne Koch Baland with Attachments.)

13. I am a co-author on both the 2019 AES abstract and poster (Exhibits 1011 and 1008, though my name was lost to the truncation in Exhibit 1008), each of which included the pharmacokinetic (PK) results that I had presented in my October 2019 presentation at the Neurocritical Care Society 17th Annual Meeting (as described above), in addition to new pharmacokinetic (PD) results, which provided additional evidence of efficacy. As I also noted above, the clinical trial's dosing regimens and the PK results were conveyed to me by Marinus scientists, including Dr. Maciej Gasior, a co-author. The additional PD results were also conveyed to me by Marinus scientists.

III. Husain 2020 (Ex. 1009)

14. Husain 2020 (Ex. 1009) is a *Journal of Clinical Neurophysiology* Publication (Volume 37, Number 4, July 2020), that includes "Poster Abstracts" from the "2020 American Clinical Neurophysiology Society (ACNS) Annual Meeting," including Poster Abstract F53 titled "Intravenous Ganaxolone Achieves Rapid and Dose-Dependent Sustained Improvement in EEG Seizure Burden in Patients with Refractory Status Epilepticus." I am an author on that Poster Abstract, as are Drs. Husain, Swisher, Ramsay, Kolls, Aimetti, Tsai, and Gasior.

15. The ACNS 2020 meeting itself was held earlier that year—in New Orleans from February 5 to February 9, 2020 (as shown in the Final Program, (Ex.

2006), which is available at <https://www.acns.org/UserFiles/file/am20-FP-v23.pdf>).

16. Before the meeting (in a press release on February 3, 2020), Marinus announced that it would be presenting EEG data from the Phase 2 study at the meeting on February 7, 2020. (Ex. 2007.) The press release identified the title of the presentation (“Intravenous Ganaxolone Achieves Rapid and Dose-Dependent Sustained Improvement in EEG Seizure Burden in Patients with Refractory Status Epilepticus”) as well as the Abstract and Poster numbers (Abstract # 793677 and Poster # F53).

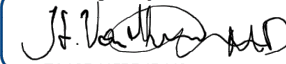
17. As Marinus noted in its press release (Ex. 2007), Dr. Husain presented the results at that meeting. The results highlighted “an independent central review of EEG seizure data [that] provided objective diagnostic confirmation in these patients of a clear dose effect, with the target dose level providing sustained reductions in seizure burden (greater than 80%) throughout the entire analysis window.” (Ex. 2007.)

18. Exhibit 1009 does not include the PK data that I had presented in October 2019 (including that the 713 mg/day dosing regimen achieves a plasma concentration of 500 ng/mL for ~8 hours), although it does indicate that the high dosing cohort was a 713 mg/day cohort. Again, the dosing regimens and PK data were communicated to me by Marinus scientists including Dr. Maciej Gasior. The

results presented Exhibit 1009 highlight the EEG seizure data noted in Marinus's February 3, 2020, press release. These EEG seizure data was also conveyed to me by Marinus scientists.

I declare under the penalty of perjury that the foregoing is true and correct.

Executed on June ^{24.00}_____, 2024.

DocuSigned by:


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Henrikas Vaitkevicius