NEWS RELEASE

Ganaxolone Achieves Primary Endpoint in Phase 3 Trial for CDKL5 Deficiency Disorder (CDD), a Rare Form of Genetic Epilepsy

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- Trial met primary endpoint, median 28-day major motor seizure frequency reduction of 32.2 percent compared to 4.0 percent for placebo (p=0.002)
- Ganaxolone was generally well tolerated and the discontinuation rate in the active treatment arm was less than 5 percent
- New Drug Application (NDA) submission planned for mid-2021; commercial launch targeted for 1H 2022
- Conference call scheduled for September 14 at 4:30pm EDT

RADNOR, Pa.--(BUSINESS WIRE)-- **Marinus Pharmaceuticals, Inc**. (Nasdaq: MRNS), a pharmaceutical company dedicated to the development of innovative therapeutics to treat rare seizure disorders, today announced positive top-line results from its registrational Phase 3 clinical trial (**Marigold Study**) evaluating the use of oral ganaxolone in children and young adults with CDKL5 deficiency disorder (CDD), a rare, genetic epilepsy with refractory seizures.

In the trial, patients given ganaxolone showed a significant 32.2 percent median reduction in 28-day major motor seizure frequency, compared to a 4.0 percent reduction for those receiving the placebo, achieving the primary endpoint (p=0.002). The trial's primary efficacy endpoint was the percentage change in 28-day frequency of major motor seizures during the double-blind phase relative to the 6-week prospective baseline period. Ganaxolone was generally well tolerated with a safety profile consistent with previous clinical studies. The most frequent adverse event was somnolence.

Based on these results, Marinus plans to submit an NDA for ganaxolone in the treatment of CDD to the U.S. Food

and Drug Administration (FDA) in mid-2021 and a Marketing Authorization Application (MAA) for ganaxolone for the treatment of CDD to the European Medicines Agency (EMA) by the end of Q3 2021.

“The Marigold Study has two important firsts. It’s the first double-blind placebo controlled study providing evidence of efficacy specific to CDD and the first Phase 3 trial to examine three times a day dosing of ganaxolone in pediatric patients,” said Scott Braunstein, M.D., Chief Executive Officer of Marinus Pharmaceuticals. “We believe we are one step closer to providing the first treatment indicated for CDD, and plan to continue our investments in the oral ganaxolone franchise.”

The trial showed numerical trends favoring ganaxolone across several predefined secondary endpoints, however, ganaxolone did not meet statistical significance. Ganaxolone did meet statistical significance in exploratory secondary endpoints.

“Today’s success with ganaxolone in CDD will pave the way for us to accelerate our clinical studies in tuberous sclerosis complex and possibly other rare pediatric epilepsies as well,” said Joe Hulihan, M.D., Chief Medical Officer of Marinus. “We will continue to explore the potential for ganaxolone’s unique mechanism of action to address other areas of unmet medical need.”

The global, double-blind, placebo-controlled, Phase 3 trial enrolled 101 patients. Children and young adults ages 2 to 21 with a confirmed, disease-related CDKL5 gene variant were eligible to enroll. Following a 6-week baseline period, trial participants were randomized to receive either oral ganaxolone (up to 1,800 mg/day) or placebo for 17 weeks, in addition to their existing anti-seizure treatment. Following the double-blind phase, patients were eligible to continue receiving ganaxolone in an open-label extension.

Marinus is planning to present the top-line results at an upcoming scientific meeting.

“CDD is a severe genetic epilepsy that can cause hundreds of seizures for patients each day,” commented Scott Demarest, M.D., Principal Investigator (PI) at Children’s Hospital Colorado; PI of the International CDKL5 Clinical Research Network (ICCRN); Assistant Professor of Pediatrics-Neurology at the University of Colorado. “Existing antiepileptic medications fail to produce an adequate and durable response in the majority of patients. The positive results from Marinus’ trial demonstrate that ganaxolone can provide significant seizure reduction in patients with CDD, an important advance for the CDD community.”

The company plans to launch an Expanded Access Program (EAP) in the fourth quarter, which will allow patients who were not able to participate in the clinical trial to begin receiving treatment with ganaxolone under a treatment protocol.

“CDD impacts each patient differently and is an incredibly challenging form of epilepsy to treat,” commented Heidi Grabenstatter, Science Director, International Foundation for CDKL5 Research. “Despite these challenges, as a patient community, we have come a long way in helping to drive innovation. We are grateful to Marinus for enabling researchers from across the globe to establish a clinical trial network, connecting with patients in need of care, and collaborating in a model for clinical research that will benefit the CDD community and the greater rare disease field in the future.”

Marinus will continue its pre-commercial development plans, while simultaneously exploring commercialization opportunities for ganaxolone in CDD with third parties to maximize access for CDD patients.

Marinus has received a **Rare Pediatric Disease (RPD) Designation** from the FDA for ganaxolone for the treatment of CDD. The FDA grants an RPD Designation for diseases that affect fewer than 200,000 people in the U.S. and in which the serious or life-threatening manifestations occur primarily in individuals 18 years of age and younger. If an NDA for ganaxolone in CDD is approved, Marinus may be eligible to receive a priority review voucher from the FDA, which can be redeemed for priority review in a subsequent marketing application by Marinus or monetized by being transferred to a third party. The program is intended to encourage development of new drugs and biologics for the prevention and treatment of rare pediatric diseases.

Corporate Update

In July, Marinus submitted a protocol amendment to the FDA for its planned Phase 3 trial for IV ganaxolone in refractory status epilepticus (RSE), and recently received FDA feedback on the protocol. Currently, the company is engaging with the FDA to respond to their feedback prior to enrolling patients in the trial. To date, Marinus has selected 55 out of a projected 80 clinical sites to participate in the trial. The company continues to target top-line data in 1H 2022.

Marinus will also continue its Phase 2, placebo-controlled trial of ganaxolone in PCDH-19-related epilepsy (Violet Study), with data expected in the first half of 2021. As a result of COVID-19 related delays in outpatient visits, Marinus plans on reporting data from the Phase 2 trial in tuberous sclerosis complex (TSC) in mid-2021. The company is planning to begin a Phase 3 registrational trial in mid-2021 should the Phase 2 trial support moving forward to Phase 3.

Marinus earlier today **announced a five-year cost-sharing contract with the Chemical Medical Countermeasures division of the Biomedical Advanced Research and Development Authority (BARDA)**, part of the U.S. Department of Health and Human Services. This agreement includes $21 million in non-dilutive funding to support the Phase 3 clinical trial Marinus is planning in RSE and preclinical studies of ganaxolone in nerve agent exposure animal models, with up to approximately $30 million in additional optional funding contingent on favorable clinical and

preclinical outcomes. The BARDA contract enables Marinus to expand development of ganaxolone for treatment of RSE caused by nerve agent toxicity and supports manufacturing, supply chain, clinical, regulatory, and toxicology activities. Marinus will be responsible for cost-sharing in the amount of $33 million if all development options are completed.

Conference Call and Webcast

Marinus Pharmaceuticals' management will host a conference call with a live webcast today, September 14 at 4:30 pm Eastern time to discuss details of the trial findings and provide an overall business update. To listen to the conference call, interested parties within the U.S. should call +1-833-979-2765. International callers should call +1-343-761-2590. All callers should ask for the Marinus conference call. The conference call will also be available through a live webcast, which can be accessed via the company's website at **www.marinuspharma.com/investors**. Please note that the company will be using slides for this call, which are available on the company's website.

A replay of the call will be available approximately one hour after the end of the call through September 21, 2020. The replay can be accessed via the Company's website or by dialing +1-800-585-8367 or +1-416-621-4642. The replay conference playback code is 7984226.

About CDKL5 Deficiency Disorder

CDKL5 deficiency disorder (CDD) is a serious and rare genetic disorder that is caused by a mutation of the cyclin-dependent kinase-like 5 (CDKL5) gene, located on the X chromosome. CDD is characterized by early-onset, difficult-to-control seizures and severe neuro-developmental impairment. Most children affected by CDD cannot walk, talk, or feed themselves. Currently, there are no therapies approved specifically for CDD.

About Ganaxolone

Ganaxolone, a positive allosteric modulator of GABAA receptors, is being developed in intravenous and oral formulations intended to maximize therapeutic reach to adult and pediatric patient populations in both acute and chronic care settings. Unlike benzodiazepines, ganaxolone exhibits antiseizure, antidepressant and anti-anxiety activity via its effects on synaptic and extrasynaptic GABAA receptors. More than 1,600 study participants, both adults and children, have received ganaxolone at therapeutically relevant dose levels and treatment regimens for up to four years.

About Marinus Pharmaceuticals

Marinus Pharmaceuticals, Inc. is a pharmaceutical company dedicated to the development of innovative

therapeutics to treat rare seizure disorders. Ganaxolone is a positive allosteric modulator of GABAA receptors that acts on a well-characterized target in the brain known to have anti-seizure, anti-depressant and anti-anxiety effects. Ganaxolone is being developed in IV and oral dose forms intended to maximize therapeutic reach to adult and pediatric patient populations in both acute and chronic care settings. Marinus has conducted the first ever Phase 3 pivotal trial in children with CDKL5 deficiency disorder and is conducting a Phase 2 trial in tuberous sclerosis complex, as well as a Phase 2 biomarker-driven proof-of-concept trial in PCDH19-related epilepsy. The company is planning to initiate a Phase 3 trial in status epilepticus. For more information visit **www.marinuspharma.com**.

Forward-Looking Statements

To the extent that statements contained in this press release are not descriptions of historical facts regarding Marinus, they are forward-looking statements reflecting the current beliefs and expectations of management made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Words such as “may”, “will”, “expect”, “anticipate”, “estimate”, “intend”, “believe”, and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) are intended to identify forward-looking statements. Examples of forward-looking statements contained in this press release include, among others, statements regarding our clinical development plans for ganaxolone; our expectations to file an NDA for ganaxolone for the treatment of CDD with the FDA by mid-2021; our expectations to file an MAA for ganaxolone for the treatment of CDD with the EMA by end Q3 2021; our expectations to begin commercial launch of ganaxolone for the treatment of CDD in the first half of 2022; our expectations to continue our investments in the oral ganaxolone franchise; our expectations to present the top-line CDD results at an upcoming scientific meeting; our expectations regarding possible commercialization opportunities for ganaxolone in CDD with third parties; our expectations to open clinical trial sites for our Phase 3 trial in status epilepticus; our expectations to release data from our Phase 3 trial in status epilepticus in 1H 2022; our expectations to release top line data from our Phase 2 open-label trial for patients with TSC in mid-2021; our expectations to begin a Phase 3 registrational trial in mid-2021; our expectations to release top line data from our Phase 2 Violet Study in the first half of 2021; our expectations regarding our agreement with BARDA; the potential safety and efficacy of ganaxolone; expectations regarding our ability to receive and utilize a priority review voucher; the therapeutic potential of ganaxolone; and our plans for an expanded access program for ganaxolone. Forward-looking statements in this press release involve substantial risks and uncertainties that could cause our clinical development programs, future results, performance or achievements to differ significantly from those expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, uncertainties and delays relating to the design, enrollment, completion, results of clinical trials, and interpretation of clinical trial results; unanticipated costs and expenses; early clinical trials may not be indicative of the results in later clinical trials; clinical trial results may not support regulatory approval or further development in a specified indication or at all; actions or advice of the U.S. Food and Drug Administration may affect the design, initiation, timing, continuation and/or progress of clinical trials

or result in the need for additional clinical trials; our ability to obtain and maintain regulatory approval for our product candidate; our ability to obtain and maintain patent protection for our product candidates; delays, interruptions or failures in the manufacture and supply of our product candidate; our ability to raise additional capital; the effect of the COVID-19 pandemic on our business, the medical community and the global economy; and the availability or potential availability of alternative products or treatments for conditions targeted by us that could affect the availability or commercial potential of our product candidate. Marinus undertakes no obligation to update or revise any forward-looking statements. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of the company in general, see filings Marinus has made with the Securities and Exchange Commission.

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