Sage Therapeutics and Biogen Announce that the Phase 3 SKYLARK Study of Zuranolone in Postpartum Depression Met its Primary and All Key Secondary Endpoints

June 1, 2022

Zuranolone 50 mg demonstrated a statistically significant and clinically meaningful improvement in depressive symptoms at Day 15, the primary endpoint, and at Days 3, 28, and 45, key secondary endpoints

Zuranolone 50 mg was generally well-tolerated and demonstrated a safety profile consistent with prior studies

Postpartum depression is one of the most common medical complications during and after pregnancy impacting approximately 1 in 8 women annually in the U.S.

Sage Therapeutics to host conference call today at 8:00 am ET

CAMBRIDGE, Mass. – June 1, 2022 – Biogen Inc. (Nasdaq: BIIB) and Sage Therapeutics, Inc. (Nasdaq: SAGE) today announced that the Phase 3 SKYLARK Study of zuranolone, an investigational oral drug being evaluated in women with postpartum depression (PPD), met its primary and all key secondary endpoints. Women treated with zuranolone 50 mg (n=98) demonstrated a statistically significant and clinically meaningful improvement in depressive symptoms at Day 15, the primary endpoint, compared to placebo (n=97) as measured by a change from baseline (CFB) in the 17-item Hamilton Rating Scale for Depression (HAMD-17) total score. The least-squares (LS) mean (SE) CFB in HAMD-17 total score at Day 15 for women who received zuranolone 50 mg was -15.6 (0.82) compared with -11.6 (0.82) for women who received placebo (LS mean difference -4.0 points; p=0.0007).

“Reducing suffering from postpartum depression as rapidly and effectively as possible to restore maternal mental health is of the utmost importance for moms and their babies,” said Dr. Kristina Deligiannidis, principal investigator of the SKYLARK Study and Associate Professor, the Feinstein Institutes for Medical Research in Manhasset, New York. “These encouraging results are another important step in efforts to develop a novel treatment option for patients who suffer from this prevalent condition.”

The study met all key secondary endpoints with rapid and statistically significant improvement in depressive symptoms as early as Day 3 for participants treated with zuranolone 50 mg compared to placebo, which was sustained at all measured timepoints through Day 45 as measured by CFB in HAMD-17 total score.

SKYLARK Study Summary Results

	Zuranolone 50 mg	**Placebo**	**LS Mean Difference**	**p value**
	LS Mean HAMD-17 Total Score CFB	***LS Mean HAMD-17 Total Score CFB***		
Day 15 Primary Endpoint	-15.6	-11.6	-4.0	0.0007
Day 3*	-9.5	-6.1	-3.4	0.0008
Day 28*	-16.3	-13.4	-2.9	0.0203
Day 45*	-17.9	-14.4	-3.5	0.0067

*Key Secondary Endpoint

In addition, the study demonstrated statistically significant improvement in the key secondary endpoint of change from baseline in the Clinical Global Impression Severity (CGI-S) scale at Day 15 for participants treated with zuranolone 50 mg as compared to placebo (zuranolone -2.2 vs. placebo -1.6, p= 0.0052). The CGI-S is a clinician-administered 7-point scale that rates the severity of a person’s disease at the time of assessment.

Zuranolone is an investigational two-week, once-daily oral drug being developed for major depressive disorder (MDD) and PPD. The SKYLARK Study in PPD was a randomized, double-blind, placebo-controlled study evaluating the efficacy and safety of zuranolone 50 mg dosed once daily for 14 days compared to placebo. Women enrolled in the study (n=200) had a total score of equal to or greater than 26 at baseline in the HAMD-17 and were followed for up to 45 days. The study population included approximately 22% Black or African American women and 38% Hispanic or Latina women.

Zuranolone 50 mg was generally well-tolerated and demonstrated a safety profile consistent with that observed in the clinical development program to date. In women in both treatment groups who experienced treatment emergent adverse events (TEAEs), the majority were mild to moderate in severity. The most common TEAEs (>5% in the zuranolone 50 mg arm) were somnolence, dizziness, sedation, headache, diarrhea, nausea, urinary tract infection and COVID-19. No evidence of withdrawal symptoms or increased suicidal ideation or behavior were identified as assessed by the 20 item Physician Withdrawal Checklist and the Columbia Suicide Severity Rating Scale, respectively.

"The positive outcomes of the SKYLARK Study are a critical step in our mission to help women suffering with postpartum depression find rapid relief

from their depressive symptoms so they can get back to feeling like themselves," said Barry Greene, Chief Executive Officer at Sage. "Postpartum depression can be devastating for women and their families. If approved, zuranolone would be the first oral medication specifically indicated to treat PPD."

"Postpartum depression is frequently under-recognized, and it can take time for women to be clinically diagnosed and treated," said Katherine Dawson, M.D., Head of the Therapeutics Development Unit at Biogen. "Our hope is to be able to offer an innovative treatment option to potentially reduce the overwhelming impact postpartum depression can have on women and their families."

PPD is one of the most common medical complications during and after pregnancy[1] and is estimated to affect approximately one in eight women who have given birth in the U.S. or approximately 500,000 women annually.[2] Symptoms of PPD can include depressed mood, loss of interest in activities, changes in sleep patterns and appetite, decreased energy, feelings of guilt or worthlessness, trouble concentrating and in some cases thoughts of suicide.[3] While recognized by the U.S. Department of Health and Human Services as a high-priority public health issue, screening rates vary and nearly 70% of women with PPD may go undiagnosed.[1]

"Every day we hear about the devastating consequences PPD and other perinatal mood disorders have on women and their families," said Wendy N. Davis, PhD, PMH-C, Executive Director, Postpartum Support International. "Access to treatment for women with PPD is still very low, and promising new medicines that have the potential to work quickly and specifically could provide an additional option that is desperately needed."

The NEST clinical development program for zuranolone in PPD includes the SKYLARK and ROBIN Studies. The first study in the NEST program, the Phase 3 ROBIN Study, also met its primary endpoint. The ROBIN Study was a multicenter, randomized, double-blind, placebo-controlled study evaluating the efficacy, safety, and pharmacokinetics of zuranolone 30 mg in the treatment of PPD. The LANDSCAPE and NEST development program for zuranolone includes 7 clinical studies evaluating the safety and efficacy of zuranolone in MDD and PPD.

Sage Therapeutics and Biogen have initiated a rolling submission of a New Drug Application (NDA) to the U.S. Food and Drug Administration for zuranolone in the treatment of MDD and plan to complete the MDD NDA filing in the second half of 2022. An associated NDA filing for PPD is anticipated in early 2023.

Conference Call Information
Sage will host a conference call and webcast on June 1 at 8:00 a.m. ET to review the totality of the SKYLARK Study. The live webcast can be accessed on the investor page of Sage's website at investor.sagerx.com. A replay of the webcast will be available on Sage's website approximately two hours after the completion of the event and will be archived for up to 30 days.

About the SKYLARK Study
The SKYLARK Study (217-PPD-301) was a Phase 3, randomized, double-blind, placebo-controlled trial assessing the efficacy and safety of zuranolone 50 mg compared to placebo in adult women with severe PPD. The 200 patients enrolled in the study were randomized to receive zuranolone 50 mg or a placebo once nightly for 14 days. People in the study were then followed for an additional four weeks. The primary endpoint was the change from baseline in the 17-item Hamilton Rating Scale for Depression (HAMD-17) total score at Day 15. The companies anticipate further data disclosures at upcoming meetings and publications. For more information about this trial, please visit clinicaltrials.gov.

About Postpartum Depression (PPD)
Postpartum depression (PPD) is one of the most common medical complications during and after pregnancy.[1] PPD can have a serious negative impact on a woman, including significant functional impairment, depressed mood and/or loss of interest in her newborn, and associated symptoms of depression such as loss of appetite, difficulty sleeping, motor challenges, lack of concentration, loss of energy and poor self-esteem. PPD is estimated to affect approximately one in eight women who have given birth in the U.S. or approximately 500,000 women annually.[2]

About Zuranolone
Zuranolone (SAGE-217/BIIB125) is a once-daily, two-week, investigational drug in development for the treatment of major depressive disorder (MDD) and postpartum depression (PPD). Zuranolone is an investigational oral neuroactive steroid (NAS) GABA-A receptor positive allosteric modulator (PAM). The GABA system is the major inhibitory signaling pathway of the brain and central nervous system and contributes to regulating brain function. Zuranolone has been granted Fast Track and Breakthrough Therapy Designation for MDD and Fast Track Designation for PPD by the U.S. Food & Drug Administration.

Zuranolone is being evaluated in the LANDSCAPE and NEST clinical development programs. The two development programs include multiple studies examining use of zuranolone in several thousand people with a variety of dosing, clinical endpoints, and treatment paradigms. The LANDSCAPE program includes five studies of zuranolone in people with MDD (MDD-201B, MOUNTAIN, SHORELINE, WATERFALL, and CORAL Studies). The NEST program includes two placebo-controlled studies of zuranolone in women with PPD (ROBIN and SKYLARK Studies). Additionally, Shionogi completed a Phase 2 study of zuranolone in Japan in people with MDD.

About Sage Therapeutics
Sage Therapeutics is a biopharmaceutical company fearlessly leading the way to create a world with better brain health. Our mission is to pioneer solutions to deliver life-changing brain health medicines, so every person can thrive. For more information, please visit www.sagerx.com.

About Biogen
As pioneers in neuroscience, Biogen discovers, develops, and delivers worldwide innovative therapies for people living with serious neurological diseases as well as related therapeutic adjacencies. One of the world's first global biotechnology companies, Biogen was founded in 1978 by Charles Weissmann, Heinz Schaller, Sir Kenneth Murray, and Nobel Prize winners Walter Gilbert and Phillip Sharp. Today, Biogen has a leading portfolio of medicines to treat multiple sclerosis, has introduced the first approved treatment for spinal muscular atrophy, and developed the first and only approved treatment to address a defining pathology of Alzheimer's disease. Biogen is also commercializing biosimilars and focusing on advancing one of the industry's most diversified pipeline in neuroscience that will transform the standard of care for patients in several areas of high unmet need.

In 2020, Biogen launched a bold 20-year, $250 million initiative to address the deeply interrelated issues of climate, health, and equity. Healthy Climate, Healthy Lives™ aims to eliminate fossil fuels across the company's operations, build collaborations with renowned institutions to advance the science to improve human health outcomes, and support underserved communities.

We routinely post information that may be important to investors on our website at www.biogen.com. Follow us on social media - Twitter, LinkedIn, Facebook, YouTube.

Forward-Looking Statements

Sage Therapeutics Safe Harbor
Various statements in this release concern Sage's future expectations, plans and prospects, including without limitation our statements regarding:

plans for completing the NDA filing for zuranolone in MDD and for submitting an associated NDA filing in PPD, and the anticipated timing of such activities; the potential profile and benefit of zuranolone in the treatment of PPD and MDD; our belief that the data from our clinical programs support the potential of zuranolone in the treatment of PPD; our mission of making zuranolone available as a new treatment option in the treatment of PPD; the potential for approval of zuranolone in the treatment of MDD and PPD; and other statements as to our mission and goals. These statements constitute forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. These forward-looking statements are neither promises nor guarantees of future performance, and are subject to a variety of risks and uncertainties, many of which are beyond our control, which could cause actual results to differ materially from those contemplated in these forward-looking statements, including the risks that: we may experience delays or unexpected hurdles in our efforts to complete the NDA submission for zuranolone in MDD and to make the associated filing in PPD, and we may not be able to complete such activities on the timelines we expect or at all; the FDA may find inadequacies and deficiencies in our NDA for zuranolone, including in the data we submit, despite prior discussions, and may decide not to accept the NDA for filing; even if the FDA accepts the NDA for filing, the FDA may find that the data included in the NDA are not sufficient for approval and may not approve the NDA; the FDA may decide that the design, conduct or results of our completed and ongoing clinical trials for zuranolone, even if positive, are not sufficient for approval in MDD or PPD and may require additional trials or data which may significantly delay and put at risk our efforts to obtain approval and may not be successful; the FDA may not meet expected review timelines for our NDA; other decisions or actions of the FDA or other regulatory agencies may affect our efforts with respect to zuranolone and our plans, progress or results; results of ongoing or future studies may impact our ability to obtain approval of zuranolone or impair the potential profile of zuranolone; unexpected concerns may arise from additional data, analysis or results from any of our completed studies; we may encounter adverse events at any stage of development that negatively impact further development or that require additional nonclinical and clinical work which may not yield positive results; the need to align with our collaborators may hamper or delay our development and commercialization efforts or increase our costs; the number of patients with PPD, the unmet need for additional treatment options and the potential market for zuranolone in the treatment of PPD, if approved, may be significantly smaller than we expect; and we may encounter technical and other unexpected hurdles which may delay our timing or change our plans, increase our costs or otherwise negatively impact our efforts to gain approval of zuranolone and to make it available as a treatment option for depression or to accomplish other aspects of our mission and goals; as well as those risks more fully discussed in the section entitled "Risk Factors" in our most recent quarterly report with the Securities and Exchange Commission (SEC), as well as discussions of potential risks, uncertainties, and other important factors in our subsequent filings with the SEC. In addition, any forward-looking statements represent our views only as of today, and should not be relied upon as representing our views as of any subsequent date. We explicitly disclaim any obligation to update any forward-looking statements.

Biogen Safe Harbor

This news release contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, relating to the potential, benefits, safety and efficacy of zuranolone; the potential clinical effects of zuranolone; the clinical development program for zuranolone; clinical development programs, clinical trials and data readouts and presentations for zuranolone; the potential treatment of MDD and PPD; the potential of Biogen's commercial business and pipeline programs, including zuranolone; the anticipated benefits and potential of Biogen's collaboration arrangement with Sage; and risks and uncertainties associated with drug development and commercialization. These forward-looking statements may be accompanied by words such as "aim," "anticipate," "believe," "could," "estimate," "expect," "forecast," "intend," "may," "plan," "potential," "possible," "will," "would" and other words and terms of similar meaning. Drug development and commercialization involve a high degree of risk and only a small number of research and development programs result in commercialization of a product. Results in early-stage clinical trials may not be indicative of full results or results from later stage or larger scale clinical trials and do not ensure regulatory approval. You should not place undue reliance on these statements, or the scientific data presented.

These statements involve risks and uncertainties that could cause actual results to differ materially from those reflected in such statements, including without limitation, uncertainty of success in the development and potential commercialization of zuranolone; unexpected concerns may arise from additional data, analysis or results of clinical studies of zuranolone; regulatory authorities may require additional information or further studies, or may fail or refuse to approve or may delay approval of Biogen's drug candidates, including zuranolone; the occurrence of adverse safety events; the risks of other unexpected hurdles, costs or delays; failure to protect and enforce data, intellectual property and other proprietary rights and uncertainties relating to intellectual property claims and challenges; product liability claims; third party collaboration risks; and the direct and indirect impacts of the ongoing COVID-19 pandemic on our business, results of operations and financial condition. The foregoing sets forth many, but not all, of the factors that could cause actual results to differ from Biogen's expectations in any forward-looking statement. Investors should consider this cautionary statement as well as the risk factors identified in Biogen's most recent annual or quarterly report and in other reports Biogen has filed with the U.S. Securities and Exchange Commission. These statements are based on Biogen's current beliefs and expectations and speak only as of the date of this news release. Biogen does not undertake any obligation to publicly update any forward-looking statements, whether as a result of new information, future developments or otherwise.

References

1. "ACOG Committee Opinion No. 757: Screening for Perinatal Depression." *Obstetrics and gynecology* vol. 132,5 (2018): e208-e212. doi:10.1097/AOG.0000000000002927
2. Bauman BL, et al. *Morbidity and Mortality Weekly Report,* 2020;69(19):575-581
3. American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

SAGE MEDIA CONTACT:
Becky Kern
(914) 772-2310
Becky.Kern@sagerx.com

BIOGEN MEDIA CONTACT:
Ashleigh Koss
Tel: +1 908-205-2572
public.affairs@biogen.com

SAGE INVESTOR CONTACT:
Helen Rubinstein
(315) 382-3979
Helen.Rubinstein@sagerx.com

BIOGEN INVESTOR CONTACT:
Mike Hencke
+1 781 464 2442
IR@biogen.com

###