August 3, 2017

Sage Therapeutics Announces Second Quarter 2017 Financial Results and Provides Pipeline Update

Enrollment completed in Phase 3 STATUS Trial of brexanolone in SRSE; reiterate Q3 2017 guidance for top-line results

Positive scientific advice from European Medicines Agency on development of brexanolone in PPD provides regulatory path in EU

Updated guidance for SAGE-217 Phase 2 placebo-controlled trial in major depressive disorder; top-line results now expected in 2H 2017 due to strong pace of enrollment

Conference Call Today at 4:30 PM ET

CAMBRIDGE, Mass.--(BUSINESS WIRE)-- Sage Therapeutics, Inc. (NASDAQ: SAGE), a clinical-stage biopharmaceutical company developing novel medicines to treat life-altering central nervous system (CNS) disorders, today reported business highlights and financial results for the second quarter ended June 30, 2017.

"Throughout our six-year history, we have explored innovative methods of drug discovery and development, as well as clinical trial design, in pursuit of novel treatments for CNS disorders that may address gaps in the efficacy and safety profile of current therapies," said Jeff Jonas, M.D., chief executive officer of Sage. "Our deliberate, thoughtful, and disciplined approach facilitated the potential for two Phase 3 data readouts and multiple other clinical milestone events in the second half of this year. I'm extremely proud of the progress our team has made in a diverse set of disease areas with the goal of positioning Sage for success as a multi-product CNS leader."

Recent Updates:

Brexanolone in SRSE - Completion of Enrollment in Phase 3 STATUS Trial

Sage recently completed enrollment in the Phase 3 STATUS Trial, the first ever global, randomized, double-blind, placebo-controlled trial in super-refractory status epilepticus (SRSE). Sage continues to expect to report top-line results from the STATUS Trial in the third quarter of 2017, following completion of all study follow-up periods and data analysis.

Brexanolone in PPD - Positive Scientific Advice from European Medicines Agency

In 2016, the European Medicines Agency (EMA) granted PRIority MEdicines (PRIME) designation to brexanolone for the treatment of postpartum depression (PPD). Sage conducted its PRIME meeting with EMA authorities earlier this year and recently received positive scientific advice. Incorporating the scientific advice from the EMA, Sage believes its proposed Phase 3 program, if successful, will be sufficient to support a European Marketing Authorization Application (MAA) to the EMA for the PPD indication. Scientific Advice is a procedure offered by the EMA to stakeholders for clarification of questions arising during development of medicinal products and focuses on development strategies rather than pre-evaluation of data to support an MAA.

SAGE-217 in MDD - Phase 2 Trial Update

Sage is currently conducting a multi-center, double-blind, placebo-controlled, randomized Phase 2 clinical trial of SAGE-217 in major depressive disorder (MDD). Due to the robust pace of enrollment, Sage now plans to increase expected enrollment to approximately 88 patients with moderate to severe MDD, from approximately 66 patients. Sage anticipates reporting top-line results from the Phase 2 trial in the second half of 2017, rather than in 2018.

SAGE-217 in Parkinson's Disease - Phase 2 Trial Update

Based on a positive activity signal observed in the Part A open-label portion of the Phase 2 program of SAGE-217 in Parkinson's disease, Sage recently initiated an open-label Part B study to evaluate SAGE-217 as an adjunctive treatment in approximately 10 tremor-predominant Parkinson's disease patients. Top-line results from the Part B study are expected in

the second half of 2017.

Expected Near-Term Clinical Milestones

- **Top-Line Data Readouts:**
  - Phase 3 STATUS Trial of brexanolone in SRSE (Q3 2017)
  - Phase 3 Hummingbird Study (202B) of brexanolone in severe postpartum depression (PPD) (2H 2017)
  - Phase 3 Hummingbird Study (202C) of brexanolone in moderate PPD (2H 2017)
  - Phase 2 trial (Part B) of SAGE-217 in MDD (2H 2017)
  - Phase 2 trial of SAGE-217 in essential tremor (2H 2017)
  - Phase 2 trial of SAGE-217 in PPD (2H 2017)
  - Phase 2 trial (Part B) of SAGE-217 in Parkinson's disease (2H 2017)
  - Phase 1 single-ascending dose trial of SAGE-718 (2H 2017)

Pipeline Overview

Sage is advancing a portfolio of novel CNS product candidates targeting the GABA and NMDA receptor systems. Dysfunction in these systems is known to be at the core of numerous psychiatric and neurological disorders. Sage is pursuing a data-driven approach to CNS drug development by employing efficient human proof-of-concept studies both to uncover activity signals and to help understand future trial methodology, before investing in larger clinical programs.

- **Brexanolone (SAGE-547):** Sage is currently developing brexanolone in separate Phase 3 clinical programs as an acute interventional treatment for SRSE and PPD. Brexanolone is Sage's proprietary intravenous (IV) formulation of allopregnanolone, a naturally occurring neuroactive steroid that acts as a synaptic and extrasynaptic modulator of the $GABA_A$ receptor.
  - **SRSE:** Sage is evaluating brexanolone in the Phase 3 STATUS Trial, a global, randomized, double-blind, placebo-controlled trial, designed to evaluate brexanolone as a potential adjunctive therapy for SRSE, a life-altering and persistent seizure condition with no treatments currently approved by the U.S. Food and Drug Administration (FDA). The Phase 3 clinical program is being conducted in agreement with the FDA under a Special Protocol Assessment (SPA). Sage has also received positive scientific advice from the European Medicines Agency (EMA) with respect to development of brexanolone for SRSE. Based on this advice, the Company believes the Phase 3 clinical program, if successful, will be sufficient to support submission of a marketing authorization application (MAA) to the EMA seeking approval of brexanolone for SRSE in the EU. Top-line results from the Phase 3 STATUS Trial are expected in Q3 2017.
  - **PPD:** Sage is currently enrolling its Phase 3 clinical program evaluating brexanolone as a potential treatment for PPD, consisting of separate placebo-controlled trials in severe PPD patients (202B) and in moderate PPD patients (202C), collectively known as the Hummingbird Study. In 2016, the FDA granted Breakthrough Therapy Designation and the EMA granted PRIority MEdicines (PRIME) designation to brexanolone for the treatment of PPD. Earlier this year, Sage conducted its PRIME meeting with EMA authorities and recently received positive scientific advice. Top-line results from the Phase 3 clinical trials of brexanolone in PPD are expected in the second half of 2017.
- **SAGE-217:** Sage's most advanced, next-generation product candidate is SAGE-217, a novel, orally-active neuroactive steroid that, like brexanolone, is a positive allosteric modulator of synaptic and extrasynaptic $GABA_A$ receptors. SAGE-217 is currently in Phase 2 development in both mood and movement disorders, with four Phase 2 clinical programs underway.
  - **Mood Disorders:**
    - **MDD:** Sage is currently conducting Part B of a Phase 2 clinical trial of SAGE-217 in MDD. Part B of Phase 2 development is a multi-center, double-blind, placebo-controlled, randomized clinical trial of SAGE-217 in MDD. Earlier this year, Sage reported positive clinical results from the open-label Part A portion of the Phase 2 clinical program evaluating SAGE-217 in patients with moderate to severe MDD. The Part B study is expected to evaluate up to approximately 88 patients with moderate to severe MDD for two weeks of treatment with SAGE-217 compared to placebo, with follow-up out to Day 42. Top-line results from the Part B study are expected in the second half of 2017.
    - **PPD**: Sage is currently conducting a Phase 2 clinical trial of SAGE-217 in PPD. The Phase 2 multi-center, double-blind, placebo-controlled, randomized trial will evaluate the efficacy, safety, tolerability, and pharmacokinetics of SAGE-217 in the treatment of patients with severe PPD. Top-line results from the SAGE-217 PPD study are expected in the second half of 2017.

- **Movement Disorders:**
  - **Essential tremor:** Sage is currently conducting a Phase 2 clinical trial of SAGE-217 in essential tremor. The efficacy, safety, tolerability, and pharmacokinetics of SAGE-217 are being evaluated in a Phase 2 multi-center, double-blind, placebo-controlled, randomized withdrawal trial in the treatment of patients with essential tremor. Top-line results from the SAGE-217 essential tremor study are expected in the second half of 2017.
  - **Parkinson's disease:** Sage recently initiated an open-label Part B study to evaluate SAGE-217 as an adjunctive treatment in tremor-predominant Parkinson's disease patients. Top-line results from the Part B study are expected in the second half of 2017.

- **Other GABA Programs:** Sage is currently evaluating a series of novel $GABA_A$ receptor modulators in pre-clinical development, including SAGE-324, a novel, orally-active next-generation positive allosteric modulator of synaptic and extrasynaptic $GABA_A$ receptors. SAGE-324 is currently in IND-enabling studies, and is intended to be developed with a focus on orphan epilepsies and indications involving GABA hypofunction.
- **NMDA Programs:** Sage is also developing novel compounds that target the NMDA receptor. The first product candidate selected for development from this program is SAGE-718, a novel, oral, first-in-class oxysterol-based positive allosteric modulator of the NMDA receptor. SAGE-718 is currently in Phase 1 clinical development and Sage expects top-line results from a Phase 1 single-ascending dose trial of SAGE-718 in healthy volunteers in the second half of 2017. Positive modulation of NMDA receptors may have potential in the treatment of a range of neurological disorders associated with a variety of cognitive, neurological and behavioral symptoms.

Financial Results for the Second Quarter of 2017

- **Cash Position:** Cash, cash equivalents and marketable securities as of June 30, 2017 were $285.9 million, compared with $397.5 million at December 31, 2016.
- **R&D Expenses:** Research and development expenses were $55.9 million, including $5.2 million of non-cash stock-based compensation expense, in the second quarter of 2017, compared to $26.1 million, including $2.0 million of non-cash stock-based compensation expense, for the same period of 2016. The increase in R&D expense was primarily due to the ongoing clinical development of brexanolone in SRSE and PPD, the ongoing Phase 2 development of SAGE-217, the Phase 1 development of SAGE-718 and investments in R&D headcount to support the growth in Sage's pipeline and operations.
- **G&A Expenses:** General and administrative expenses were $15.0 million, including $4.1 million of non-cash stock-based compensation expense, in the second quarter of 2017, compared to $8.9 million, including $2.4 million of non-cash stock-based compensation expense, for the same period of 2016. The increase in G&A expenses was primarily due to the increase in personnel-related expenses, professional fees to support expanding operations, costs related to continued preparations for a potential commercial launch, and facilities-related costs to support expanding operations.
- **Net Loss:** Net loss was $70.2 million for the second quarter of 2017, compared to a net loss of $34.7 million for the same period of 2016.
- **Financial Guidance:** Sage expects that its existing cash, cash equivalents and marketable securities will fund operating expenses and capital expenditure requirements, based on its current operating plan, into the second quarter of 2018.

Conference Call Information

Sage will host a conference call and webcast today at 4:30 PM ET to discuss its second quarter financial results and recent corporate updates. The live webcast can be accessed on the investor page of Sage's website at investor.sagerx.com. The conference call can be accessed by dialing 1-866-450-8683 (toll-free domestic) or 1-281-542-4847 (international) and using the conference ID 58436410. 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 Sage Therapeutics

Sage Therapeutics is a clinical-stage biopharmaceutical company committed to developing novel medicines to transform the lives of patients with life-altering central nervous system (CNS) disorders. Sage has a portfolio of novel product candidates targeting critical CNS receptor systems, GABA and NMDA. Sage's lead program, brexanolone (SAGE-547), is in Phase 3 clinical development for super-refractory status epilepticus, a rare and severe seizure disorder, and for postpartum depression. Sage is developing its next generation modulators, including SAGE-217 and SAGE-718, in various CNS disorders. For more information, please visit www.sagerx.com.

Forward-Looking Statements

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

expectations regarding development of our product candidates and their potential in the treatment of various CNS disorders; the expected timing of initiation and completion of clinical trials; the anticipated availability and announcement of data and results from clinical trials of our product candidates; our plans for evaluation of new indications and new compounds; our expectations regarding the regulatory pathway for brexanolone (SAGE-547), including our belief that the results of the current development program for brexanolone in SRSE and PPD, if successful, will be sufficient for MAA filings in the EU; our expectations regarding a potential future commercial launch of brexanolone, if successfully developed and approved, and the potential for our success as a multi-product company; and our expectations with respect to future cash use and cash needs. 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 slower than expected clinical site initiation and enrollment in our clinical trials, or the potential need for additional analysis or data or the need to enroll additional patients, leading to possible delays in completion of trials or in the availability of data; we may not be able to generate supportive non-clinical data or to successfully demonstrate the efficacy and safety of our product candidates at each stage of clinical development; success in our non-clinical studies or in earlier stage clinical trials may not be repeated or observed in ongoing or future studies involving the same compound or other product candidates, and ongoing and future pre-clinical and clinical results may not support further development of product candidates or be sufficient to gain regulatory approval to launch and commercialize any product; decisions or actions of regulatory agencies may affect the initiation, timing, progress and cost of clinical trials, and our ability to proceed with further clinical studies of a product candidate or to obtain marketing approval or may result in restrictions in an approved indication or the need for additional clinical trials, including the risk that regulatory authorities may, despite prior advice, decide that the clinical and non-clinical data from our development programs are not sufficient to support approval; the internal and external costs required for our activities, and to build our organization in connection with such activities, and the resulting use of cash, may be higher than expected, or we may conduct additional clinical trials or pre-clinical studies, or engage in new activities, requiring additional expenditures and using cash more quickly than anticipated; and we may encounter technical and other unexpected hurdles in the development and manufacture of our products which may delay our timing or increase our expenses and use of cash, as well as those risks more fully discussed in the section entitled "Risk Factors" in our most recent Quarterly Report on Form 10-Q, as well as discussions of potential risks, uncertainties, and other important factors in our subsequent filings with the Securities and Exchange Commission. 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.

Sage Therapeutics, Inc. and Subsidiaries
Condensed Consolidated Balance Sheets
(in thousands)
(Unaudited)

	June 30, 2017	December 31, 2016
Assets		
Current Assets:		
Cash and cash equivalents	$ 133,450	$ 168,517
Marketable securities	152,478	228,962
Prepaid expenses and other current assets	5,192	5,100
Total current assets	291,120	402,579
Property and equipment and other long-term assets	2,292	1,952
Total assets	$ 293,412	$ 404,531
Liabilities and Stockholders' Equity		
Current Liabilities:		
Accounts payable	$ 6,042	$ 12,817
Accrued expenses	26,239	22,352
Total current liabilities	32,281	35,169
Other liabilities	827	845
Total liabilities	33,108	36,014
Total stockholders' equity	260,304	368,517
Total liabilities and stockholders' equity	$ 293,412	$ 404,531

Sage Therapeutics, Inc. and Subsidiaries
Condensed Consolidated Statements of Operations
(in thousands, except share and per share data)

(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Operating expenses:				
Research and development	$ 55,900	$ 26,096	$ 101,100	$ 49,677
General and administrative	14,954	8,910	27,234	16,044
Total operating expenses	70,854	35,006	128,334	65,721
Loss from operations	(70,854)	(35,006)	(128,334)	(65,721)
Interest income, net	672	266	1,379	442
Other expense, net	(20)	(7)	(24)	(11)
Net loss	$ (70,202)	$ (34,747)	$ (126,979)	$ (65,290)
Net loss per share - basic and diluted	$ (1.88)	$ (1.08)	$ (3.40)	$ (2.05)
Weighted average shares outstanding - basic and diluted	37,361,129	32,062,298	37,315,393	31,835,194

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Source: Sage Therapeutics, Inc.