December 8, 2014

OUTPERFORM

Reason for report:

PROPRIETARY INSIGHTS

Joseph P. Schwartz
(617) 918-4575
Joseph.Schwartz@Leerink.com

Paul Matteis
(617) 918-4585
Paul.Matteis@Leerink.com

LEERINK

SAGE THERAPEUTICS, INC.

Meeting with CMO/CSO & Specialist Checks Drive PT Increase

• **Bottom Line:** We recently met with SAGE's CMO Dr. Steve Kanes and CSO Dr. Albert Robichaud and have come away with increased bullishness on SAGE-547 and the company's positive allosteric modulation (PAM) platform. Beyond studying '547 in Super Refractory Status Epilepticus (SRSE), SAGE has advanced its lead compound into two Phase IIs in postpartum depression and essential tremor (ET), the latter of which MEDACorp KOLs believe presents a significant unmet medical need that could be addressed nicely with SAGE-547 or a follow-on SAGE neurosteroid. We are adding ~$140MM in risk-adjusted revenues in 2029 to our model to reflect the compelling, albeit early opportunity in ET. **Reit. OP on SAGE, raising PT to $54 from $46.**

• **As the '547 Phase I/II and expanded access programs continue to enroll SRSE patients, SAGE expects to have an end-of-Phase II meeting with the FDA in early 2015.** SAGE continues to enroll patients in its open-label study which could both lead to the generation of additional de-risking data in 2015 and also keep sites ready to enroll subjects for the pivotal study. The company is unsure whether or not the agency will require a placebo in Phase III or if it will allow SAGE to perform an open-label trial and compare '547's efficacy to natural history. SRSE literature suggests refractory status resolves ~30% of the time, versus 13/18 (~72%) in a highly progressed population thus far for '547.

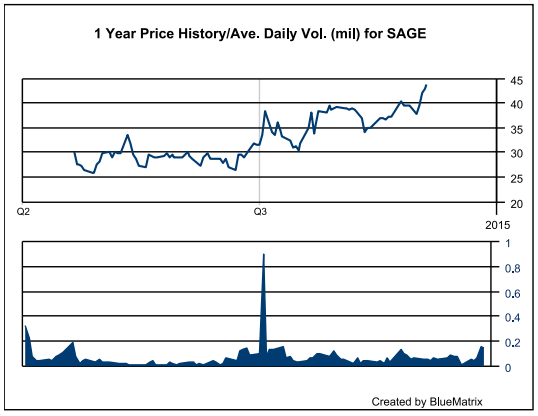
• **SAGE is using '547 as a "probe molecule" to test its GABA-PAM hypothesis in Phase II studies in ET and postpartum depression** (PPD) which could produce proof-of-concept data by mid-2015. If a signal is observed, SAGE expects to address one or both of these unmet needs with a follow-on oral compound as the company has a library of >1500 GABA PAMs that operate via the same mechanism-of-action but have pharmacokinetics that are better suited for oral/chronic use. SAGE notes the studies are relatively cheap ways to examine the GABA PAM thesis in new indications, while also providing additional safety exposure for '547 which could lower the N required for the SRSE Phase III.

• **With benzodiazepines providing effective therapeutic control in some ET patients, specialists believe that SAGE's GABA PAMs hold the potential to improve tremors** by modulating two different subunits of GABA receptors. This unique mechanism could work in ET patients who are benzo-refractory, or may be able to control tremors at lower doses and avoid benzo-related sedation. There are ~10MM ET patients in the US, 10% of whom are candidates for pharmacotherapy; KOLs estimate that ~50% these 10% fail treatment due to both medication tolerance and disease progression.

• **SAGE's Phase II postpartum depression study will test the company's thesis that the acute drop in endogenous allopregnanolone levels after childbirth** may be a contributing factor to PPD. In addition to PK/safety, the open-label study will look at mood changes after '547 treatment and subsequent withdrawal.

Key Stats:	**(NASDAQ:SAGE)**
S&P 600 Health Care Index:	**1,404.55**
Price:	**$41.74**
Price Target:	$54.00 from $46.00
Methodology:	DCF analysis with 12% discount rate
52 Week High:	$44.55
52 Week Low:	$24.25
Shares Outstanding (mil):	27.6
Market Capitalization (mil):	$1,152.0
Book Value/Share:	$2.69
Cash Per Share:	$4.95
Dividend (ann):	$0.00
Dividend Yield:	0.0%

Shares Outstanding (mil): Fully diluted shares outstanding estimated as of YE14
Cash Per Share: Cash/diluted shares 3Q14



Dec Yr	1Q	2Q	3Q	4Q	FY Rev	1Q	2Q	3Q	4Q	FY EPS	P/E
2013A	--	--	--	--	0.0	--	--	--	--	($1.92)	NM
2014E	0.0A	0.0A	0.0A	0.0	0.0	($3.71)A	($4.57)A	($0.50)A	($0.43)	($2.86)	NM
2015E	0.0	0.0	0.0	0.0	0.0	($0.51)	($0.55)	($0.59)	($0.65)	($2.30)	NM

Source: Company Information and Leerink Partners LLC Research
GAAP EPS.

Please refer to pages 10 - 12 for Important Disclosures, Price Charts and Analyst Certification.

INVESTMENT THESIS

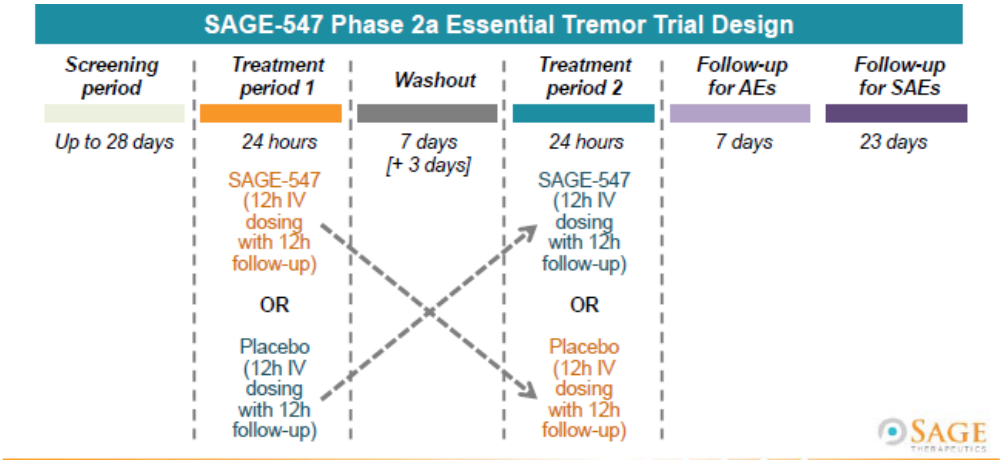
We rate SAGE shares Outperform. SAGE Therapeutics (NASDAQ: SAGE) is a neuroscience company started by an experienced team of R&D leaders and CNS specialists focused on developing medicines to treat life-threatening, rare neurological disorders. SAGE's lead product, SAGE-547, is in clinical development for super-refractory status epilepticus (SRSE) and is the first of many compounds the company is developing in its positive allosteric modulation (PAM) portfolio. SAGE-547 is a PAM modulator of both synaptic and extra-synaptic $GABA_A$ receptors that rapidly advanced into Phase I/II clinical development in early 2014. The robust clinical potential of '547 was demonstrated under an emergency Investigational New Drug (IND) program in which 5 out of 7 SAGE-547-treated SRSE patients (each of whom had spent over 30 days in the ICU) were successfully weaned out of a medically induced coma. Preliminary results from the ongoing proof-of-concept study are equally encouraging, as thus far 8 out of 11 SAGE-547-treated SRSE patients have been weaned off anesthesia while on '547 therapy; natural history data suggest that SRSE patients are weaned successfully in 30% of cases.. Beyond '547, SAGE is developing a seizure franchise of advanced next generation compounds of novel $GABA_A$ allosteric modulators for the treatment of SE and other forms of seizure and epilepsy. SAGE-689 is currently in preclinical development for neuroanesthesia and status epilepticus and is expected to enter a Phase I trial in 2015. In addition, SAGE-217 is being developed as an oral down therapy for orphan genetic epilepsies such as Dravet syndrome and Rett. With additional Phase I/II '547 SRSE data expected in 2015 and the advancement into Phase III coming soon after, we believe SAGE shares are poised to appreciate as de-risking clinical catalysts are realized for the company's lead product and allosteric modulation platform.

MEETING WITH CMO PROVIDES COLOR ON PIPELINE STRATEGY, GABA-MODULATION POTENTIAL IN ET AND PPD

SAGE is using '547 as a "probe molecule" to test its GABA-PAM hypothesis in Phase II studies in essential tremor and postpartum depression, each of which could produce proof-of-concept data by mid-2015. Both studies are relatively small and short but are designed to quickly show whether or not the positive allosteric modulation of synaptic and extra-synaptic GABA could be effective in these contexts. If a signal is observed, SAGE expects to address one or both of these unmet needs with a follow-on oral compound, as the company has a library of >1500 GABA PAMs that operate via the same mechanism-of-action as '547 but have pharmacokinetic (PK) properties that are better suited for oral/chronic use. Recently presented at the American Epilepsy Society, SAGE has the capacity to modify and switch out chemical groups on the backbone of neurosteroids in a way that retains the GABA receptor modulation properties but alters PK. SAGE notes the Phase II studies are relatively cheap ways to examine the GABA PAM thesis in new indications, while also providing additional safety exposure for '547 which could lower the N required for the SRSE Phase III.

SAGE's Phase II essential tremor study will enroll ~24 patients, each of whom will receive both drug and placebo at different timepoints. As shown in the following table, the trial is comprised of two 24 hour treatment periods each separated by a 7 day washout. Tremor patients in the active arm will receive a '547 infusion for 12 hours after which the amplitude of patients'

tremors will be assessed via a transducer. Specialists note that this method is a fairly straightforward way to assess tremor activity and severity. Additionally, the trial contains a clinical measure (The Essential Tremor Rating Scale [TETRAS]) on which physicians will assess tremor severity and interference as patients perform various movements.



Source: Company Presentations

With benzodiazepines providing effective therapeutic control in some ET patients, specialists believe that SAGE's GABA PAMs hold the potential to improve tremors by modulating two different subunits of GABA receptors. Mechanistically, the rationale in ET is identical to that in SRSE, where '547 modulates GABA via a receptor system not targeted by current treatments. SAGE-547's mechanism could be of clinical benefit to ET patients who are benzo-refractory, and/or may be able to control tremors at lower doses and avoid benzo-related sedation. Specialists note that as ET patients are treated for longer periods of time, their tolerance to medication increases, requiring an increase in benzodiazepine dose until ultimately side effects cap one's ability to up-titrate further. On a cellular level, the need for higher doses of benzodiazepine is believed to result from the internalization of alpha-1 GABA receptors, which may be due to overstimulation by pharmacotherapy, overstimulation of the GABA response system by tremors/seizures, or a combination of both. Specialists believe that better efficacy could address an unmet need in refractory ET, but believe that the ability to improve tolerability (while retaining efficacy) could render SAGE's PAM the standard-of-care.

Our conversation with SAGE Chief Scientific Officer Albert Robichaud highlighted the compelling rationale for SAGE-547 in postpartum depression. Linearly throughout pregnancy but especially during the third trimester, endogenous progesterone levels rise throughout the body. One of progesterone's active metabolites is allopregnanolone (i.e., SAGE-547) which at peak also rises to concentrations >30 fold normal levels. Once childbirth occurs, progesterone levels (and consequently, allopregnanolone levels) return to normal. As allopregnanolone has a profound effect on the GABA receptor system, SAGE believes it's possible that its rapid disappearance could play a role in the development of PPD. This theory is validated in the many published papers (specifically Schule et al., 2014 in *Progress in Neurobiology*) which posit that reduced levels of allopregnanolone in the peripheral blood or cerebrospinal fluid are associated with major depression, anxiety disorders, premenstrual dysphoric disorder, negative symptoms in schizophrenia, or impulsive aggression. In its Phase II study, the SAGE will be examining 4 days of SAGE-547 treatment and its effect on the Hamilton Rating Scale for Depression-17 (HAM-D-17)

and individual Clinical Global Impression-Improvement (CGI-I) Scale scores. Subsequently, SAGE plans to re-test these measures after treatment is terminated to see whether or not patients return to baseline (if they improve). The study is quite small (10 patients) and will be enrolling individuals at a single center (UNC) where many serious PPD cases are treated.

VALUATION

We derive a $54 (from $46 previously) price target for SAGE shares based on a 12% discount rate and a 3% terminal growth rate. Our base case assumption assumes ~$1.35 in peak-risk adjusted 2023E sales based on a 75% probability of approval for SAGE-547, and assumes ~$270MM in peak revenues in 2027E for SAGE-689 and SAGE-217 and ~$140MM in peak revenues (2027E) for essential tremor.

RISKS TO VALUATION

Risks to our valuation include disappointing clinical data, regulatory setbacks, and commercial shortfalls. Because SAGE has only one product currently being examined in patients, the occurrence of any of these could impact the stock significantly.

SAGE P&L ($MM) GAAP	2013	1Q14	2Q14	3Q14	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E
SAGE-547	-	-	-	-	-	-	-	-	-	-	-	-	19.1	72.9
SAGE-689	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SAGE-217	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue (p/w)	-	-	-	-	-	-	-	-	-	-	-	-	**19.1**	**72.9**
COGS	-	-	-	-	-	-	-	-	-	-	-	-	1.9	7.3
R&D	14.4	4.2	4.4	6.6	8.0	23.2	10.0	11.0	12.0	13.0	46.0	59.8	65.8	72.4
SG&A	3.9	1.6	1.8	2.9	3.0	9.3	3.1	3.2	3.4	4.0	13.7	24.7	44.4	54.7
Operating Expenses	18.3	5.8	6.2	9.5	11.0	32.4	13.1	14.2	15.4	17.0	59.7	84.5	112.1	134.3
Operating Income	(18.3)	(5.8)	(6.2)	(9.5)	(11.0)	(32.4)	(13.1)	(14.2)	(15.4)	(17.0)	(59.7)	(84.5)	(93.0)	(61.4)
Interest Income (Expense)	0.0	-	0.0	0.0	-	0.0	-	-	-	-	-	-	-	-
Other Income (expense)	(0.0)	-	(0.0)	(0.0)	-	(0.0)	-	-	-	-	-	-	-	-
EBT	(18.3)	(5.8)	(6.2)	(9.5)	(11.0)	(32.5)	(13.1)	(14.2)	(15.4)	(17.0)	(59.7)	(84.5)	(93.0)	(61.4)
Tax	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Income (Loss)	**(18.3)**	**(6.1)**	**(7.8)**	**(9.9)**	**(11.0)**	**(34.7)**	**(13.1)**	**(14.2)**	**(15.4)**	**(17.0)**	**(59.7)**	**(84.5)**	**(93.0)**	**(61.4)**
Diluted EPS	**$ (1.92)**	**$ (3.71)**	**$ (4.57)**	**$ (0.50)**	**$ (0.43)**	**$ (2.86)**	**$ (0.51)**	**$ (0.55)**	**$ (0.59)**	**$ (0.65)**	**$ (2.30)**	**$ (2.92)**	**$ (3.10)**	**$ (1.98)**
Basic Shares Outstanding	9.5	1.6	1.7	19.6	25.7	12.1	25.8	25.9	26.0	26.1	26.0	28.5	30.0	31.0
Diluted Shares Oustanding	9.5	1.6	1.7	19.6	25.7	12.1	25.8	25.9	26.0	26.1	26.0	28.5	30.0	31.0

Source: SEC Filings and Leerink Partners Research

SAGE BS & CFS ($MM) GAAP	2013	1Q14	2Q14	3Q14	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E
Net Cash	**8.1**	**55.2**	**49.1**	**136.7**	**126.3**	**126.3**	**114.0**	**100.7**	**86.2**	**70.2**	**70.2**	**142.3**	**59.9**	**10.6**
Cash & Equivalents	8.1	55.2	49.1	136.7	126.3	126.3	114.0	100.7	86.2	70.2	70.2	142.3	59.9	10.6
Debt	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Change in Cash	**5.3**	**47.4**	**(6.1)**	**81.4**	**(10.3)**	**112.3**	**(12.3)**	**(13.4)**	**(14.5)**	**(16.0)**	**(56.1)**	**72.1**	**(82.4)**	**(49.3)**
Operating Cash Flow	**(17.5)**	**(5.6)**	**(6.1)**	**(12.6)**	**(10.3)**	**(34.6)**	**(12.3)**	**(13.3)**	**(14.5)**	**(16.0)**	**(56.1)**	**(76.9)**	**(80.4)**	**(46.3)**
Net Income (Loss)	(18.3)	(5.8)	(7.8)	(9.9)	(11.0)	(34.4)	(13.1)	(14.2)	(15.4)	(17.0)	(59.7)	(84.5)	(93.0)	(61.4)
SOE	0.1	0.2	0.4	0.6	0.7	1.8	0.8	0.9	0.9	1.0	3.6	6.8	11.0	12.7
D&A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	2.4
Other	0.7	0.0	1.3	(3.3)	-	(2.0)	-	-	-	-	-	-	-	-
Investing Cash Flow	**(0.0)**	**(0.0)**	**(0.0)**	**(0.0)**	**(0.0)**	**(0.0)**	**(0.0)**	**(0.0)**	**(0.0)**	**(0.0)**	**(0.0)**	**(1.0)**	**(2.0)**	**(3.0)**
CapEx	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(1.0)	(2.0)	(3.0)
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	
Financing Cash flow	**22.8**	**53.0**	**-**	**94.0**	**-**	**147.0**	**-**	**-**	**-**	**-**	**-**	**150.0**	**-**	**-**
Equity Issuance (Buyback)	22.8	53.0	-	94.0	-	147.0	-	-	-	-	-	150.0	-	-
Debt Issuance (Retirement)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: SEC Filings and Leerink Partners Research

SAGE DCF Analysis	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	TV
Cash Flow From Operations ($MM)	(35)	(56)	(77)	(80)	(46)	40	194	305	430	577	524	504	501	383	275	209	120	
Cash Flow From Investing ($MM)	(0)	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	
Net Borrowing (Repayment) ($MM)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Free Cash Flow ($MM)	(35)	(56)	(78)	(82)	(49)	36	189	299	423	569	515	495	492	374	266	200	111	1269
Discount Periods	-	0.25	1.25	2.25	3.25	4.25	5.25	6.25	7.25	8.25	9.25	10.25	11.25	12.25	13.25	14.25	15.25	
NPV FCF ($MM)	(9)	(55)	(68)	(64)	(34)	22	104	147	186	224	181	155	138	93	59	40	20	225

Sum NPV FCF ($MM)	1365
Net Cash 3Q14	137
Implied SAGE Mkt Cap ($MM)	**$ 1,502**
SAGE Per Share Value	**$ 54.43**

Cost of Equity	12.0%
TG Rate	3.0%
Diluted Shares Oustanding YE14	27.6

Source: Leerink Partners Research

SAGE-547 SRSE Revenue Model	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US Status Epelepticus Patients	150,000	151,350	152,712	154,087	155,473	156,873	158,284	159,709	161,146	162,597	164,060	165,537	167,026	168,530	170,046	171,577	173,121
% refractory to benzodiazepines	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Second-Line Status Epelepticus Patients	50,000	50,450	50,904	51,362	51,824	52,291	52,761	53,236	53,715	54,199	54,687	55,179	55,675	56,177	56,682	57,192	57,707
% refractory to AEDs	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
Refractory Status Epelepticus (RSE) Patients	35,000	35,315	35,633	35,954	36,277	36,604	36,933	37,265	37,601	37,939	38,281	38,625	38,973	39,324	39,678	40,035	40,395
% super refractory - 1 failed wean attempt	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%
Super RSE Patients	25,000	25,225	25,452	25,681	25,912	26,145	26,381	26,618	26,858	27,099	27,343	27,589	27,838	28,088	28,341	28,596	28,854
%RSE treated with SAGE-547	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
%SRSE treated with SAGE-547	0.0%	0.0%	0.0%	1.5%	5.0%	10.0%	20.0%	30.0%	40.0%	50.0%	30.0%	18.0%	10.8%	5.0%	3.0%	2.0%	2.0%
Patients on SAGE-547	-	-	-	385	1,296	2,615	5,276	7,985	10,743	13,550	8,203	4,966	3,006	1,404	850	572	577
Annual Cost of Therapy	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000
US Gross Revenues ($MM)	0	0	0.0	23.1	77.7	156.9	316.6	479.1	644.6	813.0	492.2	298.0	180.4	84.3	51.0	34.3	34.6
Approval Probability	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
US Probability-Weighted Revenues ($MM)	**0**	**0**	**0.0**	**17.3**	**58.3**	**117.7**	**237.4**	**359.3**	**483.4**	**609.7**	**369.1**	**223.5**	**135.3**	**63.2**	**38.3**	**25.7**	**26.0**
ROW as % of US	0%	0%	0%	10%	25%	35%	45%	55%	60%	65%	129%	245%	457%	587%	582%	519%	308%
SAGE-547 ROW Gross Revenues ($MM)	-	-	-	2	19	55	142	264	387	528	634	729	824	494	297	178	107
SAGE-547 ROW p(w) Revenues ($MM)	**0**	**0**	**0**	**1.7**	**14.6**	**41.2**	**106.8**	**197.6**	**290.1**	**396.3**	**475.6**	**546.9**	**618.0**	**370.8**	**222.5**	**133.5**	**80.1**
y/y Growth Rate						283%	259%	185%	147%	137%	20.0%	15.0%	13.0%	-40.0%	-40.0%	-40.0%	-40.0%
	-	-	-	25.4	97.2	211.8	459.0	742.6	1,031.3	1,341.4	1,126.3	1,027.2	1,004.4	578.7	347.7	212.3	141.4
SAGE-547 WW P(w) Revenues	**0**	**0**	**0**	**19.1**	**72.9**	**158.8**	**344.3**	**557.0**	**773.5**	**1006.1**	**844.7**	**770.4**	**753.3**	**434.0**	**260.8**	**159.2**	**106.1**

Assumptions	
Annual Cost	$60,000
Probability of Approval	75%

Source: Leerink Partners Research

Essential Tremor Rev. Model	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Essential Tremor Pts. In US	10,000,000	10,090,000	10,180,810	10,272,437	10,364,889	10,458,173	10,552,297	10,647,267	10,743,093	10,839,781	10,937,339	11,035,775	11,135,097	11,235,313	11,336,430	11,438,458	11,541,404
% moderate-to-severe - require pharmacotreatment	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Moderate-to-Severe ET Pts. In US	1,000,000	1,009,000	1,018,081	1,027,244	1,036,489	1,045,817	1,055,230	1,064,727	1,074,309	1,083,978	1,093,734	1,103,577	1,113,510	1,123,531	1,133,643	1,143,846	1,154,140
% treated by GABA PAM	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	1.5%	3.0%	4.5%	5.0%	5.5%	5.6%	5.9%	6.0%	6.1%	3.7%
ET Patients on GABA PAM	-	-	-	-	-	-	5,276	15,971	32,229	48,779	54,687	60,697	62,357	66,288	68,019	69,775	42,242
Annual Cost	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Gross Revenues	0	0	0	0	0	0.0	52.8	159.7	322.3	487.8	546.9	607.0	623.6	662.9	680.2	697.7	422.4
Probability of Success	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Probability-Weighted Revenues	0	0	0	0	0	0.0	15.8	31.9	64.5	97.6	109.4	121.4	124.7	132.6	136.0	139.5	84.5

Assumptions	
Annual Cost	$10,000
Probability of Approval	20%

Source: Leerink Partners Research, essentialtremor.org, Company Estimates

Product	Event	Timing
SAGE-547	Top-line Phase I/II Data	4Q14
SAGE-547	End-of-phase II meeting with FDA	1Q15
SAGE-547	Proof-of-Concept Data for ET and PPD Studies	2015
SAGE-547	Initiate Pivotal Trials	2015
SAGE-217	Initiate Phase I Studies	2015
SAGE-689	Initiate Phase I Studies	2015

Source: SEC Filings and Leerink Partners Research

Disclosures Appendix

Analyst Certification

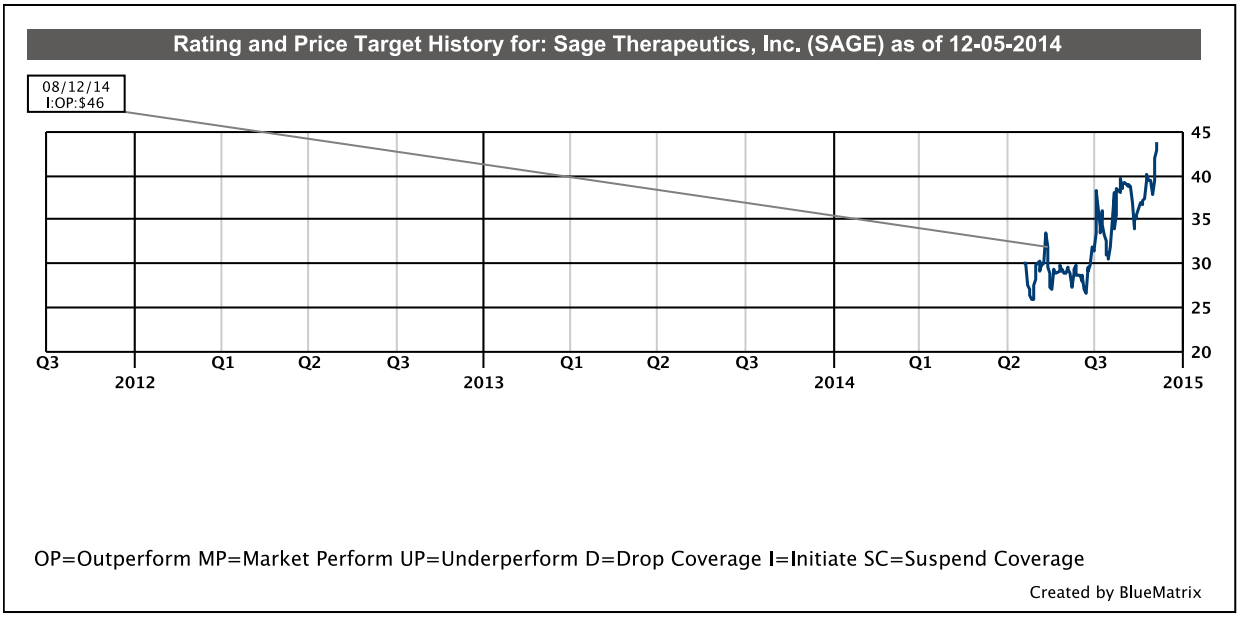
I, Joseph P. Schwartz, certify that the views expressed in this report accurately reflect my views and that no part of my compensation was, is, or will be directly related to the specific recommendation or views contained in this report.

Valuation

We derive a $54 price target for SAGE shares based on a 12% discount rate and a 3% terminal growth rate. Our base case assumption assumes ~$1.35 in peak-risk adjusted 2023E sales based on a 75% probability of approval for SAGE-547, and assumes ~$270MM in peak revenues in 2027E for SAGE-689 and SAGE-217 and ~$140MM in peak revenues (2027E) for essential tremor.

Risks to Valuation

Risks to our valuation include disappointing clinical data, regulatory setbacks, and commercial shortfalls. Because SAGE has only one product currently being examined in patients, the occurrence of any of these could impact the stock significantly.



Distribution of Ratings/Investment Banking Services (IB) as of 09/30/14				
			IB Serv./Past 12 Mos.	
Rating	Count	Percent	Count	Percent
BUY [OP]	138	69.30	51	37.00
HOLD [MP]	61	30.70	2	3.30
SELL [UP]	0	0.00	0	0.00

Explanation of Ratings

Outperform (Buy): We expect this stock to outperform its benchmark over the next 12 months.
Market Perform (Hold/Neutral): We expect this stock to perform in line with its benchmark over the next 12 months.
Underperform (Sell): We expect this stock to underperform its benchmark over the next 12 months.The degree of outperformance or underperformance required to warrant an Outperform or an Underperform rating should be commensurate with the risk profile of the company.
For the purposes of these definitions the relevant benchmark will be the S&P 600® Health Care Index for issuers with a market capitalization of less than $2 billion and the S&P 500® Health Care Index for issuers with a market capitalization over $2 billion.

Important Disclosures

This information (including, but not limited to, prices, quotes and statistics) has been obtained from sources that we believe reliable, but we do not represent that it is accurate or complete and it should not be relied upon as such. All information is subject to change without notice. This is provided for information purposes only and should not be regarded as an offer to sell or as a solicitation of an offer to buy any product to which this information relates. The Firm, its officers, directors, employees, proprietary accounts and affiliates may have a position, long or short, in the securities referred to in this report, and/or other related securities, and from time to time may increase or decrease the position or express a view that is contrary to that contained in this report. The Firm's salespeople, traders and other professionals may provide oral or written market commentary or trading strategies that are contrary to opinions expressed in this report. The Firm's proprietary accounts may make investment decisions that are inconsistent with the opinions expressed in this report. The past performance of securities does not guarantee or predict future performance. Transaction strategies described herein may not be suitable for all investors. Additional information is available upon request by contacting the Editorial Department at One Federal Street, 37th Floor, Boston, MA 02110.

Like all Firm employees, analysts receive compensation that is impacted by, among other factors, overall firm profitability, which includes revenues from, among other business units, Institutional Equities, and Investment Banking. Analysts, however, are not compensated for a specific investment banking services transaction.
MEDACorp is a network of healthcare professionals, attorneys, physicians, key opinion leaders and other specialists accessed by Leerink and it provides information used by its analysts in preparing research.

In the past 12 months, the Firm has received compensation for providing investment banking services to Sage Therapeutics, Inc. .

Leerink Partners LLC makes a market in Sage Therapeutics, Inc.

Leerink Partners LLC has acted as the manager for a public offering of Sage Therapeutics, Inc. in the past 12 months.

Leerink Partners LLC Equity Research

Director of Equity Research	**John L. Sullivan, CFA**	(617) 918-4875	john.sullivan@leerink.com
Associate Director of Research	**Alice C. Avanian, CFA**	(617) 918-4544	alice.avanian@leerink.com
Healthcare Strategy	**John L. Sullivan, CFA**	(617) 918-4875	john.sullivan@leerink.com
	Alice C. Avanian, CFA	(617) 918-4544	alice.avanian@leerink.com
Biotechnology	**Howard Liang, Ph.D.**	(617) 918-4857	howard.liang@leerink.com
	Joseph P. Schwartz	(617) 918-4575	joseph.schwartz@leerink.com
	Michael Schmidt, Ph.D.	(617) 918-4588	michael.schmidt@leerink.com
	Gena Wang, Ph.D., CFA	(212) 277-6073	gena.wang@leerink.com
	Paul Matteis	(617) 918-4585	paul.matteis@leerink.com
	Jonathan Chang, Ph.D.	(617) 918-4015	jonathan.chang@leerink.com
	Richard Goss	(617) 918-4059	richard.goss@leerink.com
Life Science Tools and Diagnostics	**Dan Leonard**	(212) 277-6116	dan.leonard@leerink.com
	Justin Bowers, CFA	(212) 277-6066	justin.bowers@leerink.com
Pharmaceuticals/Major	**Seamus Fernandez**	(617) 918-4011	seamus.fernandez@leerink.com
	Aneesh Kapur	(617) 918-4576	aneesh.kapur@leerink.com
Specialty Pharmaceuticals	**Jason M. Gerberry, JD**	(617) 918-4549	jason.gerberry@leerink.com
	Derek C. Archila	(617) 918-4851	derek.archila@leerink.com
Medical Devices, Cardiology & Orthopedics	**Danielle Antalffy**	(212) 277-6044	danielle.antalffy@leerink.com
	Puneet Souda	(212) 277-6091	puneet.souda@leerink.com
	Richard Newitter	(212) 277-6088	richard.newitter@leerink.com
	Ravi Misra	(212) 277-6049	ravi.misra@leerink.com
Healthcare Services	**Ana Gupte, Ph.D.**	(212) 277-6040	ana.gupte@leerink.com
	Matthew Milask	(212) 277-6084	matthew.milask@leerink.com
Healthcare Technology & Distribution	**David Larsen, CFA**	(617) 918-4502	david.larsen@leerink.com
	Christopher Abbott	(617) 918-4010	chris.abbott@leerink.com
Digital Health	**Steven Wardell**	(617) 918-4097	steven.wardell@leerink.com
Sr. Editor/Supervisory Analyst	**Mary Ellen Eagan, CFA**	(617) 918-4837	maryellen.eagan@leerink.com
Supervisory Analysts	Robert Egan		bob.egan@leerink.com
	Amy N. Sonne		amy.sonne@leerink.com
Editorial	Cristina Diaz-Dickson	(617) 918-4548	cristina.diaz-dickson@leerink.com
Research Associate	Carmen Augustine	(212) 277-6012	carmen.augustine@leerink.com

New York
299 Park Avenue, 21st floor
New York, NY 10171
(888) 778-1653

Boston
One Federal Street, 37th Floor
Boston, MA 02110
(800) 808-7525

San Francisco
201 Spear Street, 16th Floor
San Francisco, CA 94105
(800) 778-1164