Confidential Treatment Requested
by Sage Therapeutics, Inc.
SAGE-0001

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June 27, 2014

FOIA Confidential Treatment Request
The entity requesting confidential treatment is:
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CERTAIN PORTIONS OF THIS LETTER HAVE BEEN OMITTED FROM THE VERSION FILED VIA EDGAR. CONFIDENTIAL TREATMENT HAS BEEN REQUESTED WITH RESPECT TO THE OMITTED PORTIONS. INFORMATION THAT WAS OMITTED IN THE EDGAR VERSION HAS BEEN NOTED IN THIS LETTER WITH A PLACEHOLDER IDENTIFIED BY THE MARK "[***]." THE OMITTED PORTIONS ARE BRACKETED IN THIS LETTER FOR EASE OF IDENTIFICATION.

VIA EDGAR AND FEDERAL EXPRESS

United States Securities and Exchange Commission
Division of Corporation Finance
Mail Stop 4561
100 F Street, N.E.
Washington, D.C. 20549
Attention: Daniel Greenspan
Amy Reischauer
Ibolya Ignat
Jim Rosenberg

RE: Sage Therapeutics, Inc.
Registration Statement on Form S-1 (the "Registration Statement")
File No. 333- 196849
CIK No. 0001597553

Dear Mr. Greenspan:

This letter is being supplementally furnished on behalf of Sage Therapeutics, Inc. (the "Company") with respect to the Company's Registration Statement on Form S-1 (File No. 333-196849) (the "Registration Statement") that was filed with the Securities and Exchange Commission (the "Commission") on June 17, 2014. Reference is also made to comment no. 9 contained in the letter from the staff of the Division of Corporation Finance (the "Staff") of the Commission in its letter dated April 25, 2014 addressed to Jeffrey M. Jonas, M.D. with respect to the initial draft of the Registration Statement confidentially submitted on March 28, 2014 (the "Comment Letter").

To assist the Staff in its evaluation of the Registration Statement, the Company advises the Staff that it currently anticipates that the price range for this offering will be within the range of $[***] to $[***] per share (before giving effect to a reverse stock split that the Company plans to implement prior to effectiveness of the Registration Statement). The anticipated price range for this offering is based on a number of factors, including the prevailing market conditions and estimates of the Company's business potential, the general condition of the securities market, the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies and preliminary discussions with the underwriters for this offering regarding potential valuations of the Company. The actual *bona fide* price range to be included in a subsequent amendment to the Registration Statement has not yet been determined and remains subject to adjustment based on factors outside of the Company's control. However, the Company believes that the actual *bona fide* price range will be within this estimated price range. In addition, the actual price range to be included in such amendment will comply with the Staff's interpretation regarding the parameters of a *bona fide* price range.

We confirm on behalf of the Company that, prior to circulating copies of the preliminary prospectus in connection with the offering, the Company will file a pre-effective amendment to the Registration Statement that will include all information other than information that may be excluded in reliance upon Rule 430A of Regulation C, and the actual price range to be included in such amendment which will comply with the Staff's interpretation regarding the parameters of a *bona fide* price range. Furthermore, any clinical data that is discussed in this letter that is not yet included in the Registration Statement, will be included in a pre-effective amendment to the Registration Statement.

As requested in comment no. 9 to the Comment Letter, this letter is being furnished in order to provide the Staff with a quantitative and qualitative analysis explaining the difference between the estimated offering price for the offering contemplated by the Registration Statement (the "IPO") and the fair value of recent equity issuances.

Determining the Fair Value of Stock Options Prior to the IPO

As disclosed in the Registration Statement, the Company's board of directors has historically determined the fair value of its common stock on each option grant date based on a variety of factors. The Company determined that the fair value of its common stock increased from $0.14 per share as of January 1, 2013 to $2.83 as of May 22, 2014. The following discussion describes the reasons for the increases in the fair value of the Company's common stock over this period.

Year Ended December 31, 2013. The Company's board of directors determined that the fair value of its common stock was $0.14 per share as of December 31, 2012 based on several factors, including the results of a third-party valuation performed as of that date. That valuation analysis used the OPM backsolve approach to derive the fair value of the Company's common stock based on the pricing of its Series A preferred stock financings that occurred in April and November 2012. In that valuation, the Company (1) estimated the time to liquidity as 2.0 years, based on the then-current plans and estimates of its board of directors and management regarding a liquidity event; (2) assumed volatility of 65%, based on historical trading volatility for its publicly traded peer companies; and (3) used a risk-free rate of return of 0.25%, based on the two-year U.S. Treasury yield curve. The Company then applied a discount for lack of marketability of 35%. The December 31, 2012 valuation analysis resulted in a valuation of the Company's common stock of $0.14 per share.

From January 1, 2013 to November 5, 2013, the Company continued to operate its business in the ordinary course. In that period, the Company closed on additional tranches of Series A preferred stock financings at the same $1.00 price per share that had been agreed to in the original purchase agreement, raising gross proceeds of $22.8 million from those transactions. In mid-August 2013, the Company announced the appointment of a new Chief Executive Officer and a Chief Medical Officer, both with significant industry experience; however, the hiring of these executives was not an event that immediately increased the enterprise value of the Company. From January 1, 2013 to November 5, 2013, the Company's lead product candidate, SAGE-547, and its follow-on product candidates in its SE program, SAGE-689 and SAGE-217, were still in early or non-clinical development; and by November 5, 2013, the Company had no IND filings approved by the FDA for

any of those product candidates. As a result, the Company's board of directors determined that the fair value of the Company's common stock was $0.14 per share as of each of January 6, 2013, April 18, 2013, July 23, 2013, August 12, 2013, September 24, 2013 and November 5, 2013, when the Company granted restricted stock and stock options for the purchase of common stock.

In October 2013, the Company arranged for $20.0 million in future financing by entering into a stock purchase agreement with an investor group that agreed to purchase shares of the Company's Series B preferred stock at a price of $1.50 per share, however, the Company could not draw down any of the financing until such time as the Company met certain milestones, including filing an IND with the FDA for SAGE-547, and either filing a request for a pre-IND meeting with the FDA for SAGE-689 or filing an IND with the FDA for the first proof of concept clinical trial using SAGE-547. In late November 2013, the Company achieved the specified milestones, which allowed the Company access to the funding at any time at its discretion. The Company viewed this achievement of the milestones and access to financing as a significant event. In December 2013, the Company obtained a third-party valuation of its common stock as of November 30, 2013 as one of the factors considered by its board of directors in its determination of the fair value of the Company's common stock. That valuation analysis used the OPM backsolve approach to derive the fair value of the Company's common stock based on the pricing of its prospective Series B preferred stock financings. In that valuation, the Company (1) estimated the time to liquidity as 2.2 years, based on the then-current plans and estimates of its board of directors and management regarding a liquidity event; (2) assumed volatility of 67%, based on historical trading volatility for its publicly traded peer companies; and (3) used a risk-free rate of return of 0.33%, based on the two-year U.S. Treasury yield curve. The Company then applied a discount for lack of marketability of 20%. The analysis resulted in a valuation of the Company's common stock as of November 30, 2013 of $0.43 per share.

During the December 2013 time period, the Company had no plans for an IPO in the near term because it did not believe that the public markets presented a favorable environment for a biopharmaceutical company at its stage of development. Considering these and other factors, the Company's board of directors determined that the fair value of the Company's common stock was $0.43 per share as of December 13, 2013, and the Company believed that the fair value of its common stock remained unchanged through December 31, 2013.

Three Months Ended March 31, 2014. From January 1, 2014 to March 31, 2014, the Company experienced significant developments in its business and prospects. In January and February 2014, the Company commenced its Phase 1/2 clinical trial of SAGE-547 and received additional confirmatory information about three patients who then-recently had been treated with SAGE-547 by independent centers under emergency-use INDs. Each patient treated with SAGE-547 achieved resolution of SRSE after treatment. In addition, in January 2014, the Company submitted an application to the FDA for orphan drug designation for SAGE-547 as a treatment for RSE, which includes SRSE. In February 2014, the Company had its pre-IND meeting with the FDA, which provided clarity on its development plans for SAGE-689.

Based on these factors and other progress in the Company's development programs as well as its board of directors' review of overall market conditions and the improved market for IPOs by biopharmaceutical companies in particular, the Company's board of directors determined that a significant shift was occurring with respect to the valuation the Company could achieve in an IPO and authorized the preparation and submission of a confidential draft registration statement for an IPO. In late February 2014, the Company selected investment bankers and held its IPO organizational meeting. In March 2014, the Company also executed a Series C preferred stock financing under which the Company issued shares of Series C preferred stock to new investors at $4.23 per share, raising net proceeds of $37.9 million. In late March 2014, the Company submitted to the SEC a confidential draft registration statement for an IPO of its shares of common stock.

In late March 2014, the Company obtained a third-party valuation of its common stock as of March 12, 2014, which was one of the factors considered by the Company's board of directors in its determination of the fair value of its common stock. As the Company's board of directors had determined that an IPO had become a possible but uncertain liquidity event, the valuation analysis was prepared by utilizing the hybrid method, which considered an unspecified liquidity event and an IPO for the first time. For those two future-event scenarios, management and the Company's board of directors determined that the probability of the unspecified liquidity event was 45% and the probability of the IPO scenario was 55%, based on an assessment of the Company's development pipeline, market conditions and its progress in undertaking an IPO. In determining the enterprise value for the unspecified liquidity event scenario, the Company applied the OPM backsolve approach to calculate its implied equity value based on the pricing of its Series C preferred stock financing that occurred in March 2014 and also considering the expected time to liquidity. In that OPM backsolve approach, the Company (1) estimated the time to liquidity as 2.4 years, based on the then-current plans and estimates of its board of directors and management regarding a liquidity event; (2) assumed volatility of 77%, based on historical trading volatility for its publicly traded peer companies; and (3) used a risk-free rate of return of 0.54%, based on a pro-rated U.S. Treasury yield curve. In determining the enterprise value for the IPO scenario, the Company applied the guideline transaction method under the market approach, which considered the increase in value that occurred from the most recent preferred financing round to the IPO for a group of comparable biopharmaceutical companies that had completed IPOs in the preceding year. The comparable companies were selected based on a number of factors, including the similarity of their industry, business model, financial risk and stage of development to the Company's. For the IPO scenario, the Company estimated time to completion of the IPO of 3.5 months and applied a risk-adjusted discount rate of 25%, which was determined based on three studies that indicated rates of return required by venture investors for bridge financing or IPO-stage companies. For those scenarios, the Company then applied a discount for lack of marketability of 29% under the unspecified liquidity event scenario and 10% under the IPO scenario. The March 12, 2014 valuation analysis resulted in a valuation of the Company's common stock of $2.54 per share. Based on that result as well as consideration of other qualitative factors, the Company's board of directors determined that the fair

value of the Company's common stock was $2.54 per share as of March 26, 2014, when it granted stock options for the purchase of common stock, and the Company believes that the fair value of its common stock remained unchanged through March 31, 2014.

For the Period from April 1, 2014 to May 22, 2014. From April 1, 2014 to May 22, 2014, the Company continued to operate its business in the ordinary course. The Company's Phase 1/2 clinical trial for its lead product candidate, SAGE-547, was still ongoing and its follow-on product candidates in its SE program, SAGE-689 and SAGE-217, were still in early or non-clinical development. However, in early April 2014, the Company learned that three patients enrolled its Phase 1/2 clinical trial of SAGE-547 had met the key efficacy endpoint of the trial. On April 20, 2014, the FDA granted the Company orphan drug designation for SAGE-547 as a treatment for SE. The Company continued to prepare for an IPO, and on May 9, 2014, the Company submitted to the SEC an amendment to its confidential draft registration statement for an IPO of shares of common stock.

In May 2014, the Company obtained a third-party valuation of its common stock as of April 25, 2014 as one of the factors considered by the Company's board of directors in its determination of the fair value of the Company's common stock. That valuation analysis was prepared utilizing the PWERM for the first time and considered three scenarios: an IPO, a sale at an equity value representing a premium to the IPO equity value (the "premium sale scenario"), and a sale at an equity value representing a discount to the IPO equity value (the "discount sale scenario"). For those three future-event scenarios, management and the Company's board of directors determined that the probability of the IPO scenario was 60% and the probabilities of the two sale scenarios were 14% and 26%, respectively, based on the Company's assessment of its development pipeline, market conditions and its progress in undertaking an IPO.

In determining the enterprise value for the IPO scenario, the Company applied the guideline transaction method under the market approach, which considered the increase in value that occurred from the most recent preferred financing round to the IPO for a group of comparable biopharmaceutical companies that had completed IPOs in the preceding year. The comparable companies were selected based on a number of factors, including the similarity of their industry, business model, financial risk and stage of development to the Company's. For the IPO scenario, the Company estimated time to completion of the IPO of 2.0 months and applied a risk-adjusted discount rate of 25%, consistent with the discount rate about under the IPO scenario in the Company's March 12, 2014 valuation analysis. For the premium sale scenario, the Company determined the enterprise value by applying a control premium to the pre-money value determined in the IPO scenario. The control premium was based on the median one-day premium observed in comparable biopharmaceutical sale transactions the occurred in the preceding year. The comparable companies were selected based on a number of factors, including the similarity of their industry, business model, financial risk and stage of development to the Company's. For the discount sale

scenario, the Company determined the enterprise value by assuming a sale price equal to the Company's invested capital as of the valuation date. For both sale scenarios, the Company applied a risk-adjusted discount rate of 25% and estimated the time to liquidity as 2.1 years, based on the then-current plans and estimates of the Company's board of directors and management regarding a liquidity event. For those scenarios, the Company then applied a discount for lack of marketability of 28% under the sale scenarios and 10% under the IPO scenario. The April 25, 2014 valuation analysis resulted in a valuation of the Company's common stock of $2.83 per share. Based on that result as well as consideration of other qualitative factors, the Company's board of directors determined that the fair value of the Company's common stock was $2.83 per share as of May 22, 2014, when it granted stock options for the purchase of common stock.

Initial Public Offering Price Range

The anticipated price range for this offering was determined with reference to several quantitative and qualitative factors, each of which contributed to the difference between the Company's most recent valuation of its common stock as of April 25, 2014 of $2.83 and the midpoint of the anticipated offering price range of $[***] per share. Specifically, the Company believes that the difference between the fair value of its common stock determined on April 25, 2014 and the midpoint of the anticipated offering price range for this offering is primarily the result of the following factors and events:

- In June 2014, two additional emergency-use patients were treated with SAGE-547, increasing the total number of such patients to six. Each patient was administered SAGE-547 in advance of a further wean attempt. One of the two patients experienced resolution of SRSE three days after SAGE-547 treatment was discontinued. The other patient had low plasma exposures of SAGE-547 and experienced no appreciable benefit from treatment with SAGE-547. The Company believes these data taken together with the data from patients treated in its ongoing Phase 1/2 clinical trial of SAGE-547 provides preliminary evidence of the pharmacological effect of SAGE-547.
- In June 2014, the Company also enrolled one additional patient its Phase 1/2 clinical trial of SAGE-547, increasing the total number of patients to four, all of whom met the key efficacy endpoint of the trial. In addition, the Company increased the number of its clinical trial sites to five.

- The anticipated price range for this offering is based only upon a scenario in which the Company completes this offering and is not probability weighted, in contrast to the Company's prior valuations of common stock, which had to consider multiple potential outcomes, some of which would have resulted in a lower value of the Company's common stock than an initial public offering.
- The anticipated price range for this offering necessarily assumes that the IPO has occurred and that a public market for the Company's common stock has been created, and, therefore, excludes any discount for lack of marketability of the Company's common stock, which was appropriately taken into account in the Company's board of directors' determination of the fair value of its common stock on April 25, 2014 and May 22, 2014.
- The Company's redeemable convertible preferred stock has substantial economic rights and preferences superior to its common stock. The estimated offering price range assumes the conversion of all of the Company's redeemable convertible preferred stock into common stock upon the completion of this offering and the corresponding elimination of such superior economic rights and preferences.
- The proceeds of a successful IPO would substantially strengthen the Company's balance sheet by increasing its cash resources. In addition, the closing of this offering would provide the Company with readier access to the public company debt and equity markets. These projected improvements in the Company's financial position influenced the increased common stock valuation indicated by the midpoint of the anticipated price range.
- Since April 25, 2014, the equity capital markets have been particularly receptive to IPOs conducted by biopharmaceutical companies, with several companies successfully pricing their IPOs. During this period, the major healthcare indices have increased and have largely out-paced the S&P 500 as well as the Dow Jones Industrial Average. For example, since May 2013, the Nasdaq Biotechnology Index has increased 14.0%, compared to the S&P 500, which increased 5.0%, and the Dow Jones Industrial Average, which increased 3.0%.
- The price that investors may be willing to pay in this offering may take into account other factors that have not been expressly considered in the Company's prior valuations as a private company, and are not objectively determinable and that valuation models are not able to quantify.

Sage Therapeutics, Inc. respectfully requests that the information contained in this letter be treated as confidential information and that the Commission provide timely notice to Jeffrey M. Jonas, Chief Executive Officer, Sage Therapeutics, Inc., 15 First Street, Cambridge, MA 02142, before it permits any disclosure of the bracketed information in letter.

Because of the financially sensitive nature of the estimated price range, the Company requests confidential treatment under 17 C.F.R. § 200.83 of the bracketed contents of this letter and has submitted a separate request for confidential treatment in accordance therewith to the Commission's Office of Freedom and Information Privacy Act Operations. Pursuant to Rule 418 under the Securities Act of 1933, as amended (the "Securities Act"), the information contained in this letter is being provided to the Commission on a confidential supplemental basis only and is not to be filed with or deemed part of the Registration Statement. The Company respectfully requests that the Staff return this letter to us pursuant to Rule 418 of the Securities Act once the Staff has completed its review. We have provided a self-addressed stamped envelope for this purpose. Kindly acknowledge receipt of this letter by stamping the enclosed copy of this letter and returning it in the envelope.

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If you have any questions or comments regarding the foregoing, or if there is any additional information that we might provide to assist the Staff's review, please contact the undersigned at (617) 570-1933.

Sincerely,

/s/ Michael H. Bison, Esq.

cc: Jeffrey M. Jonas, M.D., *Sage Therapeutics, Inc.*
Kimi Iguchi, *Sage Therapeutics, Inc.*
Mitchell S. Bloom, Esq., *Goodwin Procter*
Laurie A. Burlingame, Esq., *Goodwin Procter*