UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2017

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number 000-30171

SANGAMO THERAPEUTICS, INC.

(exact name of registrant as specified in its charter)

Delaware	**68-0359556**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**

501 Canal Blvd
Richmond, California 94804
(Address of principal executive offices)

(510) 970-6000
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by section 13 or 15(d) of the Securities Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of "large accelerated filer," "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☒
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☐
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of July 31, 2017, 83,610,838 shares of the issuer's common stock, par value $0.01 per share, were outstanding.

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SANGAMO THERAPEUTICS, INC.

PART I. FINANCIAL INFORMATION

PART II. OTHER INFORMATION

Unless the context suggests otherwise, references in this Quarterly Report on Form 10-Q, or Quarterly Report, to "Sangamo," the "Company," "we," "us," and "our" refer to Sangamo Therapeutics, Inc. and, where appropriate, our wholly owned subsidiaries.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some statements contained in this report are forward-looking with respect to our operations, research, development and commercialization activities, clinical trials, operating results and financial condition. These statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- our strategy;
- product development and commercialization of our products;
- clinical trials;
- partnering, acquisition and other strategic transactions;
- revenues from existing and new collaborations;
- our research and development and other expenses;
- sufficiency of our cash resources;
- our operational and legal risks; and
- our plans, objectives, expectations and intentions and any other statements that are not historical facts.

In some cases, you can identify forward-looking statements by terms such as: “anticipates,” “believes,” “continues,” “could,” “estimates,” “expects,” “intends,” “may,” “plans,” “seeks,” “should” and “will.” These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these risks and uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the headings “Risk Factors” and “Management’s Discussion and Analysis of Financial Conditions and Results of Operations” in this Quarterly Report, Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances arising after the date of such statements. Readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this Quarterly Report.

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

SANGAMO THERAPEUTICS, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited; in thousands, except share and per share amounts)

	June 30, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$ 69,837	$ 22,061
Marketable securities	180,074	120,474
Interest receivable	256	224
Accounts receivable	3,495	4,972
Prepaid expenses	2,015	1,849
Total current assets	255,677	149,580
Marketable securities, non-current	16,343	—
Property and equipment, net	8,347	6,557
Goodwill	1,585	1,585
Other assets	1,041	169
Total assets	$ 282,993	$ 157,891
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	$ 9,206	$ 6,261
Accrued compensation and employee benefits	2,909	2,885
Deferred revenues	29,542	4,145
Total current liabilities	41,657	13,291
Deferred revenues, non-current	43,409	4,460
Build-to-suit lease obligation	3,887	3,945
Total liabilities	88,953	21,696
Commitments and contingencies		
Stockholders' equity:		
Common stock, $0.01 par value; 160,000,000 shares authorized, 83,479,539 and 70,871,902 shares issued and outstanding at June 30, 2017 and December 31, 2016, respectively	835	709
Additional paid-in capital	663,382	576,377
Accumulated deficit	(470,034)	(440,911)
Accumulated other comprehensive (loss) income	(143)	20
Total stockholders' equity	194,040	136,195
Total liabilities and stockholders' equity	$ 282,993	$ 157,891

See accompanying notes.

SANGAMO THERAPEUTICS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited; in thousands, except per share amounts)

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Revenues:				
Collaboration agreements	$ 7,977	$ 3,592	$ 11,283	$ 7,303
Research grants	276	110	395	341
Total revenues	8,253	3,702	11,678	7,644
Operating expenses:				
Research and development	14,984	19,454	27,926	34,720
General and administrative	6,037	11,090	13,312	16,447
Total operating expenses	21,021	30,544	41,238	51,167
Loss from operations	(12,768)	(26,842)	(29,560)	(43,523)
Interest and other income, net	277	243	437	430
Loss before income taxes	(12,491)	(26,599)	(29,123)	(43,093)
Benefit from income taxes	—	24	—	24
Net loss	$ (12,491)	$ (26,575)	$ (29,123)	$ (43,069)
Basic and diluted net loss per share	$ (0.17)	$ (0.38)	$ (0.41)	$ (0.61)
Shares used in computing basic and diluted net loss per share	72,527	70,487	71,780	70,430

See accompanying notes.

SANGAMO THERAPEUTICS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(Unaudited; in thousands)

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Net loss	$ (12,491)	$ (26,575)	$ (29,123)	$ (43,069)
Change in unrealized (loss) gain on available-for-sale securities, net of tax	(51)	8	(163)	91
Comprehensive loss	$ (12,542)	$ (26,567)	$ (29,286)	$ (42,978)

See accompanying notes.

SANGAMO THERAPEUTICS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited: in thousands)

	Six months ended June 30,	
	2017	**2016**
Operating Activities:		
Net loss	$ (29,123)	$ (43,069)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	618	493
Amortization of premium on marketable securities	32	133
Stock-based compensation	4,751	10,393
Benefit from income taxes	—	(24)
Net changes in operating assets and liabilities:		
Interest receivable	(32)	8
Accounts receivable	1,477	216
Prepaid expenses and other assets	(1,039)	(510)
Accounts payable and accrued liabilities	2,654	(1,232)
Accrued compensation and employee benefits	24	(546)
Deferred revenues	64,346	(2,399)
Net cash provided by / (used in) operating activities	43,708	(36,537)
Investing Activities:		
Purchases of marketable securities	(159,166)	(145,890)
Maturities of marketable securities	83,029	126,087
Purchases of property and equipment	(2,175)	(356)
Net cash used in investing activities	(78,312)	(20,159)
Financing Activities:		
Proceeds from public offering of common stock, net of issuance costs	81,562	—
Taxes paid related to net share settlement of equity awards	(7)	(534)
Proceeds from issuance of common stock	825	703
Net cash provided by financing activities	82,380	169
Net increase / (decrease) in cash and cash equivalents	47,776	(56,527)
Cash and cash equivalents, beginning of period	22,061	69,482
Cash and cash equivalents, end of period	$ 69,837	$ 12,955
Supplemental disclosure of noncash investing activities:		
Property and equipment included in accrued liabilities	$ 226	$ 247

See accompanying notes.

NOTE 1—BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements of Sangamo Therapeutics, Inc. ("Sangamo" or the "Company") have been prepared in accordance with U.S. generally accepted accounting principles for interim financial information and pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring adjustments) considered necessary for a fair presentation have been included. Operating results for the three and six months ended June 30, 2017 are not necessarily indicative of the results that may be expected for the year ending December 31, 2017. The condensed consolidated balance sheet data at December 31, 2016 were derived from the audited consolidated financial statements included in Sangamo's Annual Report on Form 10-K for the year ended December 31, 2016, (the "2016 Annual Report"), as filed with the SEC. The accompanying condensed consolidated financial statements and related financial information should be read in conjunction with the audited financial statements and footnotes thereto for the year ended December 31, 2016, included in the 2016 Annual Report

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and the accompanying notes. On an ongoing basis, management evaluates its estimates, including critical accounting policies or estimates related to revenue recognition, clinical trial accruals, and stock-based compensation. Estimates are based on historical experience and on various other market specific and other relevant assumptions that the Company believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from those estimates.

Revenue Recognition

Revenues from research activities made under strategic partnering agreements and collaborations are recognized as the services are provided when there is persuasive evidence that an arrangement exists, delivery has occurred, the price is fixed or determinable, and collectability is reasonably assured. Revenue generated from research and licensing agreements typically includes upfront signing or license fees, cost reimbursements, research services, minimum sublicense fees, milestone payments and royalties on future licensee's product sales.

For revenue agreements with multiple element arrangements, such as license and development agreements, entered into on or after January 1, 2011, the Company allocates revenue to each non-contingent element based on the relative selling price of each element. When applying the relative selling price method, the Company determines the selling price for each deliverable using Vendor Specific Objective Evidence ("VSOE") of selling price or Third Party Evidence ("TPE") of selling price. If neither exists, the Company uses Estimated Selling Price ("ESP") for that deliverable. Revenue allocated is then recognized when the basic four revenue recognition criteria are met for each element. The collaboration and license agreements, as amended, entered into with (i) Shire International GmbH, formerly Shire AG ("Shire"), in January 2012, (ii) Bioverativ, formerly Biogen Idec Inc. ("Bioverativ") in January 2014, as amended, and (iii) Pfizer, Inc. ("Pfizer") in May 2017 were evaluated under these amended accounting standards.

Additionally, the Company may be entitled to receive certain milestone payments which are contingent upon reaching specified objectives. These milestone payments are recognized as revenue in full upon achievement of the milestone if there is substantive uncertainty at the date the arrangement is entered into that the objectives will be achieved and if the achievement is based on the Company's performance.

Minimum annual sublicense fees are also recognized as revenue in the period in which such fees are due. Royalty revenues are generally recognized when earned and collectability of the related royalty payment is reasonably assured. The Company recognizes cost reimbursement revenue under collaborative agreements as the related research and development costs for services are rendered assuming all other applicable revenue recognition criteria have been met. Deferred revenue represents the portion of research or license payments received which have not been earned.

Sangamo's research grants are typically multi-year agreements and provide for the reimbursement of qualified expenses for research and development as defined under the terms of the grant agreement. Revenue under grant agreements is recognized when the related qualified research expenses are incurred.

Recent Accounting Standards

In March 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-09, *Compensation – Stock Compensation* (Topic 718) ("ASU 2016-09"). ASU 2016-09 involves several aspects of the accounting for share-based transactions, including the income tax consequences, classification of awards as either equity or liabilities, how to account for forfeitures, and classification on the statement of cash flows. The amendments in this update are effective for the Company for its fiscal year 2017. As a result of the adoption of ASU 2016-09, the Company recognized current and prior excess tax benefits related to the exercise of options in its income tax provision. As a result of the Company's historic, current losses and valuation allowance applied to its deferred tax assets, the gross cumulative effect when considering the federal and state tax impact is $7.5 million. The Company has elected to prospectively apply the amendments related to classifying cash flows related to excess tax benefits as an operating activity. During the quarter ended June 30, 2017 excess tax benefits were classified as an operating activity on the consolidated statement of cash flows, along with other income tax cash flows. The Company has made a policy election to account for forfeitures as they occur. This election was adopted using a modified retrospective approach resulting in an immaterial cumulative effect on retained earnings at the beginning of the period. Prior to the adoption, forfeitures were accounted for using an estimated forfeiture rate.

In February 2016, the FASB issued ASU No. 2016-02 *Leases* ("ASU 2016-02"). ASU 2016-02 amends a number of aspects of lease accounting, including requiring lessees to recognize almost all leases with a term greater than one year as a right-of-use asset and corresponding liability, measured at the present value of the lease payments. The guidance will become effective for the Company beginning in the first quarter of 2019 with early adoption permitted and will be adopted using a modified retrospective approach. The Company is evaluating the impact of the adoption of this standard on its consolidated financial statements, and expects that its operating lease commitments will be subject to the new standard and recognized as a right-of-use assets and operating lease liabilities upon adoption, which will increase the Company's total assets and total liabilities as compared to amounts prior to adoption.

In May 2014, the FASB issued ASU 2014-09 *Revenue from Contracts with Customers* ("ASU 2014-09"). This standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. The main principle of ASU 2014-09 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. ASU 2014-09 provides companies with two implementation methods: (i) apply the standard retrospectively to each prior reporting period presented (full retrospective application); or (ii) apply the standard retrospectively with the cumulative effect of initially applying the standard as an adjustment to the opening balance of retained earnings of the annual reporting period that includes the date of initial application (modified retrospective application). The Company elected to apply the modified retrospective application. This guidance is effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. The Company has performed a preliminary assessment and continues to evaluate the impact of the pending adoption of ASU 2014-09 on its consolidated financial statements and has determined that the collaborations with Pfizer and Bioverativ are within its scope. The Company assessed the various components of these collaborations under ASC 2014-09 including the upfront license payment, milestones, and research and development services. At this time the Company believes there would be no significant impact to its financial position or results of operations upon adoption of ASU 2014-09.

NOTE 2—FAIR VALUE MEASUREMENT

The Company measures certain financial assets and liabilities at fair value on a recurring basis, including cash equivalents, and available-for sale-securities. The fair values of these assets were determined based on a three-tier hierarchy under the authoritative guidance for fair value measurements and disclosures that prioritizes the inputs used in measuring fair value as follows:

Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;

Level 2: Quoted prices in markets that are not active or inputs which are observable, either directly or indirectly, for substantially the full term of the asset or liability; and

Level 3: Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (i.e., supported by little or no market activity).

The fair value measurements of the Company's cash equivalents and available-for-sale marketable securities are identified at the following levels within the fair value hierarchy (in thousands):

	June 30, 2017 Fair Value Measurements			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash equivalents:				
Money market funds	$ 61,385	$ 61,385	$ —	$ —
Total	61,385	61,385	—	—
Marketable securities:				
Commercial paper securities	65,444	—	65,444	—
Corporate debt securities	64,907	—	64,907	—
U.S. government sponsored entity debt securities	66,066	—	66,066	—
Total	196,417	—	196,417	—
Total cash equivalents and marketable securities	$ 257,802	$ 61,385	$ 196,417	$ —

	December 31, 2016 Fair Value Measurements			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash equivalents:				
Money market funds	$ 18,992	$ 18,992	$ —	$ —
Total	18,992	18,992	—	—
Marketable securities:				
Commercial paper securities	23,185	—	23,185	—
Corporate debt securities	10,004	—	10,004	—
U.S. government sponsored entity debt securities	87,285	—	87,285	—
Total	120,474	—	120,474	—
Total cash equivalents and marketable securities	$ 139,466	$ 18,992	$ 120,474	$ —

The Company generally classifies its marketable securities as Level 2. Instruments are classified as Level 2 when observable market prices for identical securities that are traded in less active markets are used. When observable market prices for identical securities are not available, such instruments are priced using benchmark curves, benchmarking of like securities, sector groupings, matrix pricing and valuation models. These valuation models are proprietary to the pricing providers or brokers and incorporate a number of inputs, including, listed in approximate order of priority: benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers and reference data including market research publications. For certain security types, additional inputs may be used, or some of the standard inputs may not be applicable. Evaluators may prioritize inputs differently on any given day for any security based on market conditions, and not all inputs listed are available for use in the evaluation process for each security evaluation on any given day.

NOTE 3—MARKETABLE SECURITIES

The Company classifies its marketable securities as available-for-sale and records its investments at estimated fair value based on quoted market prices or observable market inputs of substantially identical assets. Unrealized holding gains and losses are included in accumulated other comprehensive income (loss). Investments that have maturities beyond one year as of the end of the reporting period are classified as non-current.

The Company's investments are subject to a periodic impairment review. The Company recognizes an impairment charge when a decline in the fair value of its investments below the cost basis is judged to be other-than-temporary. The Company considers various factors in determining whether to recognize an impairment charge, including the length of time and extent to which the fair value has been less than the Company's cost basis, the financial condition and near-term prospects of the investee, and the Company's intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in the market value. Realized gains and losses on available-for-sale securities are included in other income, which is determined using the specific identification method

The table below summarizes the Company's investments (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized (Losses)	Estimated Fair Value
June 30, 2017				
Cash equivalents:				
Money market funds	$ 61,385	$ —	$ —	$ 61,385
Total	61,385	—	—	61,385
Available-for-sale securities:				
Commercial paper securities	65,465	—	(21)	65,444
Corporate debt securities	64,943	—	(36)	64,907
U.S. government sponsored entity debt securities	66,122	—	(56)	66,066
Total	196,530	—	(113)	196,417
Total cash equivalents and available-for-sale securities	$ 257,915	$ —	$ (113)	$ 257,802
December 31, 2016				
Cash equivalents:				
Money market funds	$ 18,992	$ —	$ —	$ 18,992
Total	18,992	—	—	18,992
Available-for-sale securities:				
Commercial paper securities	23,112	73	—	23,185
Corporate debt securities	10,005	—	(1)	10,004
U.S. government sponsored entity debt securities	87,307	3	(25)	87,285
Total	120,424	76	(26)	120,474
Total cash equivalents and available-for-sale securities	$ 139,416	$ 76	$ (26)	$ 139,466

The Company had no material realized losses or other-than-temporary impairments of its investments for the six months ended June 30, 2017 or the twelve months ended December 31, 2016. As of June 30, 2017 and December 31, 2016, all of the Company's investments had maturity dates within two years. The Company has the intent and ability to hold its investments for a period of time sufficient to allow for any anticipated recovery in market value.

NOTE 4—BASIC AND DILUTED NET LOSS PER SHARE

Basic net loss per share has been computed by dividing the net loss by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share is calculated by dividing net loss by the weighted-average number of shares of common stock and potential dilutive securities outstanding during the period.

Because Sangamo is in a net loss position, diluted net loss per share excludes the effects of common stock equivalents consisting of stock options and restricted stock units, which are all anti-dilutive. The total number of shares subject to stock options and restricted stock units outstanding were excluded from consideration in the calculation of diluted net loss per share. Stock options and restricted stock units outstanding for the six months ended June 30, 2017 and 2016 were 9,898,588 and 9,408,253, respectively.

NOTE 5—MAJOR CUSTOMERS, PARTNERSHIPS AND STRATEGIC ALLIANCES

Collaboration Agreements

Collaboration and License Agreement with Pfizer Inc. in Human Therapeutics

On May 10, 2017, Sangamo entered into an Exclusive, Global Collaboration and License Agreement (the "Pfizer Agreement") with Pfizer, Inc. pursuant to which Sangamo and Pfizer established a collaboration for the research, development and commercialization of SB-525, Sangamo's gene therapy product candidate for hemophilia A, and closely related products.

Under the Pfizer Agreement, Sangamo will be responsible for conducting the Phase 1/2 clinical trial and certain manufacturing activities for SB-525, while Pfizer will be responsible for subsequent worldwide development, manufacturing, marketing and commercialization of SB-525. Sangamo and Pfizer may also collaborate in the research and development of additional adeno-associated virus ("AAV")-based gene therapy products for hemophilia A.

Under the Pfizer Agreement, Sangamo received an upfront fee of $70.0 million from Pfizer. In addition, Sangamo is eligible to receive development milestone payments contingent on the achievement of specified clinical development, intellectual property, regulatory and first commercial sale milestones for SB-525 and potentially other products. The total amount of potential clinical development, intellectual property, regulatory, and first commercial sale milestone payments, assuming the achievement of all specified milestones in the Pfizer Agreement, is $475.0 million, which includes up to $300.0 million for SB-525 and up to $175.0 million for other products that may be developed under the Pfizer Agreement, subject to reduction on account of payments made under certain licenses for third party intellectual property. In addition, Pfizer has agreed to pay Sangamo royalties for each potential licensed product developed under the Pfizer Agreement that are an escalating tiered, double-digit percentage of the annual net sales of such product and are subject to reduction due to patent expiration, entry of biosimilar products to the market and payment made under certain licenses for third party intellectual property. To date, no milestone payments have been received and no products have been approved and therefore no royalty fees have been earned under the Pfizer Agreement.

Subject to the terms of the Pfizer Agreement, Sangamo granted Pfizer an exclusive, worldwide, royalty-bearing license, with the right to grant sublicenses, to use certain technology controlled by Sangamo for the purpose of developing, manufacturing and commercializing SB-525 and related products. Under the Pfizer Agreement, Pfizer granted Sangamo a non-exclusive, worldwide, royalty free, fully paid license, with the right to grant sublicenses, to use certain manufacturing technology developed under the Pfizer Agreement and controlled by Pfizer to manufacture Sangamo's products that utilize the AAV delivery system. During a specified period, neither Sangamo nor Pfizer will be permitted to clinically develop or commercialize, outside of the collaboration, certain AAV-based gene therapy products for hemophilia A.

The Company has identified the deliverables within the Pfizer Agreement as a license to the technology and on-going services. The Company concluded that the license is not a separate unit of accounting as it does not have stand-alone value to Pfizer apart from the services to be performed by the Company pursuant to the Pfizer Agreement. As a result, the Company will recognize revenue from the upfront payment on a straight-line basis over a thirty-two month estimated time over which the Company will perform services. The recognition period will be reviewed quarterly and adjusted, as needed, to reflect the Company's current assumptions regarding the period of performance. As of June 30, 2017, the Company had deferred revenue of $66.2 million related to the Pfizer Agreement. During the three months ended June 30, 2017 the Company recognized revenue of $3.8 million related to the upfront fee.

Collaboration and License Agreement with Bioverativ Inc. in Human Therapeutics

In January 2014 the Company entered into a Global Research, Development and Commercialization Collaboration and License Agreement with Biogen, Inc., and in January 2017 this agreement was assigned by Biogen to its blood disorder spin-off, Bioverativ (the "Bioverativ Agreement"). Pursuant to the Bioverativ Agreement, Sangamo and Bioverativ collaborate to discover, develop, seek regulatory approval for and commercialize therapeutics based on Sangamo's zinc finger DNA-binding protein ("ZFP") technology for hemoglobinopathies, including beta-thalassemia and sickle cell disease ("SCD").

Under the Bioverativ Agreement, Sangamo and Bioverativ jointly conduct two research programs: the beta-thalassemia program and the SCD program. For the beta-thalassemia program, Sangamo is responsible for all discovery, research and development activities through the first human clinical trial for the first therapeutic developed under the Bioverativ Agreement for the treatment of beta-thalassemia. For the SCD program, both parties are responsible for research and development activities through the submission of an Investigational New Drug ("IND") application for a ZFP-based therapeutic intended to treat SCD. For both programs, Bioverativ is responsible for subsequent world-wide clinical development, manufacturing and commercialization of licensed products developed under the Bioverativ Agreement. At the end of specified research terms for each program or under certain specified circumstances, Bioverativ retains the right to step in and take over any remaining activities of Sangamo. Furthermore, Sangamo has an option to co-promote in the United States any licensed products to treat beta-thalassemia and SCD developed under the Bioverativ Agreement, and Bioverativ agrees to compensate Sangamo for such co-promotion activities.

Sangamo received an upfront license fee of $20.0 million upon entering into the Bioverativ Agreement. In addition, the Company will also be eligible to receive $115.8 million in payments upon the achievement of specified research, regulatory, clinical development milestones, as well as $160.5 million in payments upon the achievement of specified commercialization and sales milestones. Bioverativ reimburses Sangamo for agreed upon costs incurred in connection with research and development activities conducted by Sangamo, including Phase 1 contingent payments of $7.5 million for the SCD program and $6.0 million for the beta-thalassemia program. In addition, if products are commercialized under the Bioverativ Agreement, Bioverativ will pay Sangamo incremental royalties for each licensed product that are a tiered double-digit percentage of annual net sales of such product. To date, no milestone payments have been received and no products have been approved and therefore no royalty fees have been earned under the Bioverativ Agreement.

In January 2016, the parties agreed on an updated beta-thalassemia development plan and budget using the BCL11A Enhancer target. In November 2016, Sangamo and Bioverativ agreed on an updated beta-thalassemia development plan and budget. As a result of this change, the Company updated the estimated performance period of the upfront license through June 2020, and updated the milestones to be received based on the updated performance period of its deliverables under the Bioverativ Agreement.

All contingent payments under the Bioverativ Agreement, when earned, will be non-refundable and non-creditable. The Company has evaluated the contingent payments under the Bioverativ Agreement based on the authoritative guidance for research and development milestones and determined that certain of these payments meet the definition of a milestone and that all such milestones are evaluated to determine if they are considered substantive milestones. Milestones are considered substantive if they are related to events (i) that can be achieved based in whole or in part on either the Company's performance or on the occurrence of a specific outcome resulting from the Company's performance, (ii) for which there was substantive uncertainty at the date the agreement was entered into that the event would be achieved and (iii) that would result in additional payments being due to the Company. Accordingly, consideration received for the achievement of milestones that are determined to be substantive will be recognized as revenue in their entirety in the period when the milestones are achieved and collectability is reasonably assured. Revenue for the achievement of milestones that are not substantive will be recognized over the remaining period of the Bioverativ Agreement, assuming all other applicable revenue recognition criteria have been met.

Subject to the terms of the Bioverativ Agreement, Sangamo has granted Bioverativ an exclusive, royalty-bearing license, with the right to grant sublicenses, to use certain ZFP and other technology controlled by Sangamo for the purpose of researching, developing, manufacturing and commercializing licensed products developed under the Bioverativ Agreement. Sangamo has also granted Bioverativ a non-exclusive, world-wide, royalty free, fully paid license, with the right to grant sublicenses, under Sangamo's interest in certain other intellectual property developed pursuant to the Bioverativ Agreement.

The Company has identified the deliverables within the arrangement as a license to the technology and on-going research services activities. The Company concluded that the license is not a separate unit of accounting as it does not have stand-alone value to Bioverativ apart from the research services to be performed pursuant to the Bioverativ Agreement. As a result, the Company will recognize revenue from the upfront payment on a straight-line basis over a forty-four month estimated research term as of the November 2016 modification date, during which time the Company will perform research services. The estimated period of performance is reviewed quarterly and adjusted, as needed, to reflect the Company's current assumptions regarding the timing of its deliverables. As of June 30, 2017, the Company had deferred revenue of $5.5 million related to the Bioverativ Agreement.

Revenues recognized under the agreement with Bioverativ for the three months and six months ended June 30, 2017 and 2016 were as follows (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Revenue related to Bioverativ Collaboration:				
Recognition of upfront fee	$ 442	$ 608	$ 884	$ 1,216
Research services	3,068	1,894	4,777	3,925
Total	$ 3,510	$ 2,502	$ 5,661	$ 5,141

Costs and expenses incurred under the Bioverativ Agreement related to the beta-thalassemia project were $2.9 million and $2.1 million during the three months ended June 30, 2017 and 2016, respectively, and $4.5 million and $4.1 million during the six months ended June 30, 2017 and, 2016, respectively.

Amended Collaboration and License Agreement with Shire International GmbH in Human Therapeutics

In January 2012, the Company entered into a Collaboration and License Agreement with Shire (the "Shire Agreement "), pursuant to which the Company and Shire collaborate to research, develop and commercialize human therapeutics and diagnostics for monogenic diseases based on the Company's novel ZFP technology. This agreement was amended on September 1, 2015, as described in more detail below.

Under the original Shire Agreement, the Company and Shire agreed to develop potential genome editing products or diagnostic products for seven gene targets. The initial four gene targets selected were blood clotting Factors VII, VIII, IX and X, and products developed for such initial gene targets may be used for treating or diagnosing hemophilia A and B. Shire had the right, subject to certain limitations, to designate two additional gene targets, and in June 2012, Shire selected a fifth gene target for the development of a therapeutic for Huntington's disease. Shire had the right, subject to certain limitations, to designate two additional gene targets. Pursuant to the Shire Agreement, the Company granted Shire an exclusive, world-wide, royalty-bearing license, with the right to grant sublicenses, to use Sangamo's ZFP technology for the purpose of developing and commercializing human therapeutic and diagnostic products for the gene targets.

Under the terms of the Shire Agreement, the Company was responsible for all research activities through the submission of an IND or European Clinical Trial Application ("CTA"), while Shire was responsible for clinical development and commercialization of products generated from the research program from and after the acceptance of an IND or CTA for the product. Shire reimbursed Sangamo for agreed upon internal and external program-related research costs. The Company received an upfront license fee of $13.0 million upon entering into the Shire Agreement in 2012. In 2014 Sangamo recognized a $1.0 million milestone payment related to the hemophilia program.

On September 1, 2015, the Shire Agreement was amended such that Shire agreed to return to Sangamo the exclusive, world-wide rights to gene targets for the development and commercialization of therapeutics for hemophilia A and B. Shire retained the rights and will continue to develop a therapeutic for Huntington's disease. Sangamo will provide certain target feasibility services, and upon Shire's request, certain research activities according to a research plan as agreed upon by both companies. Such research activities performed by Sangamo will be reimbursed by Shire. Shire's rights with respect to other targets contemplated in the original agreement revert to Sangamo. Under the amended agreement, each company is responsible for expenses associated with its own programs and Shire will reimburse Sangamo for any ongoing services provided by Sangamo for Shire's programs. Sangamo has granted Shire a right of first negotiation to license Sangamo's hemophilia A and B products for genome editing purposes developed under the amended Shire Agreement based on Sangamo's ZFP technology. Under the amended agreement, Shire does not have any milestone payment obligations with respect to the retained programs, but it is required to pay single digit percentage royalties to Sangamo, up to a specified maximum cap, on the commercial sales of therapeutic products from such programs. Under the Shire Agreement as amended, Sangamo has full control over, and full responsibility for the costs of, the hemophilia programs returned to it, subject to certain diligence obligations and Shire's right of first negotiation to obtain a license to such programs under certain circumstances. The Company is required to pay single digit percentage royalties to Shire, up to a specified maximum cap, on commercial sales of therapeutic products from such returned programs.

The Company has identified the deliverables within the amended arrangement as a license to the technology and on-going research services activities. The Company has concluded that the license is not a separate unit of accounting as it does not have stand-alone value to Shire apart from the research services to be performed pursuant to the Shire amendment. Sangamo continues to be responsible for research activities related to the licensed technology with Shire under the amendment. As a result, the Company will continue to recognize revenue from the upfront payment received upon entering into the original Shire agreement in 2012 on a straight-line basis over the six-year initial research term during which the Company expects to perform research services. As of June 30, 2017, the Company had deferred revenue of $1.2 million related to the Shire Agreement, as amended.

Revenues recognized under the agreement with Shire for the three and six months ended June 30, 2017 and 2016 were as follows (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Revenue related to Shire Collaboration:				
Recognition of upfront fee	$ 583	$ 541	$ 1,167	$ 1,083
Research services	3	363	110	792
Total	$ 586	$ 904	$ 1,277	$ 1,875

Related costs and expenses incurred under the Shire agreement were $0.0 million and $0.3 million during the three months ended June 30, 2017 and 2016, and $0.1 million and $0.7 million during the six months ended June 30, 2017 and 2016, respectively..

Agreement with Sigma-Aldrich Corporation in Laboratory Research Reagents, Transgenic Animal and Commercial Protein Production Cell-line Engineering

In July 2007, the Company entered into a license agreement (the "Sigma Agreement") with Sigma-Aldrich Corporation ("Sigma"). Under the Sigma Agreement, Sangamo agreed to provide Sigma with access to Sangamo's proprietary ZFP technology and the exclusive right to use the technology to develop and commercialize research reagent products and services in the research field, excluding certain agricultural research uses that Sangamo previously licensed to Dow AgroSciences LLC (DAS). Under the Sigma Agreement, Sangamo and Sigma agreed to conduct a three-year research program to develop laboratory research reagents using Sangamo's ZFP technology during which time Sangamo agreed to assist Sigma in connection with its efforts to market and sell services employing the Company's ZFP technology in the research field. Sangamo has transferred its ZFP manufacturing technology to Sigma.

In October 2009, the Company expanded the Sigma Agreement. In addition to the original terms of the Sigma Agreement, Sigma received exclusive rights to develop and distribute ZFP-modified cell lines for commercial production of protein and other pharmaceuticals and certain ZFP-engineered transgenic animals for commercial applications. Under the terms of the expanded agreement, Sigma made an upfront cash payment of $20.0 million consisting of a $4.9 million purchase of 636,133 shares of Sangamo common stock, valued at $4.9 million, and a $15.1 million upfront license fee. Sangamo has received commercial license fees of $5.0 million based upon a percentage of net sales and sublicensing revenue for commercial products and once such amount was received, the Company receives a reduced royalty rate of 10.5% of net sales and sublicensing revenue. In addition, upon the achievement of certain cumulative commercial milestones Sigma will make milestone payments to Sangamo up to an aggregate of $25.0 million.

Revenues recognized under the agreement with Sigma for the three and six months ended June 30, 2017 and 2016 were as follows (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Revenue related to Sigma Collaboration:				
Royalty revenues	$ 19	$ 49	$ 50	$ 61
License fee revenues	—	63	267	70
Total	$ 19	$ 112	$ 317	$ 131

Related costs and expenses incurred under the Sigma agreement were $0.0 million during both the three and six months ended June 30, 2017 and 2016, respectively.

Agreement with Dow AgroSciences in Plant Agriculture

In October 2005 the Company entered into an exclusive commercial license agreement with DAS. Under this agreement, Sangamo provides DAS with access to proprietary ZFP technology and the exclusive right to use the technology to modify the genomes or alter the nucleic acid or protein expression of plant cells, plants, or plant cell cultures. Sangamo has retained rights to use plants or plant-derived products to deliver ZFP transcription factors ("ZFP TFs") or ZFP nucleases ("ZFNs") into humans or animals for diagnostic, therapeutic or prophylactic purposes. The Company's agreement with DAS provided for an initial three-year research term. In June 2008, DAS exercised its option under the agreement to obtain a commercial license to sell products incorporating or derived from plant cells generated using the Company's ZFP technology, including agricultural crops, industrial products and plant-derived biopharmaceuticals. The exercise of the option triggered a one-time commercial license fee of $6.0 million, payment of the remaining $2.3 million of the previously agreed $4.0 million in research milestones, development and commercialization milestone payments for each product, and royalties on sales of products. Furthermore, DAS has the right to sublicense Sangamo's ZFP technology to third parties for use in plant cells, plants or plant cell cultures and Sangamo will be entitled to 25% of any cash consideration received by DAS under such sublicenses. In December 2010, the Company amended its agreement with DAS to extend the period of reagent manufacturing services and research services through December 31, 2012.

The agreement with DAS also provides for minimum sublicense fees each year due to Sangamo every October, provided the Agreement is not terminated by DAS. Annual fees range from $250,000 to $3.0 million and total $25.3 million over eleven years. The Company does not have any ongoing performance obligations with respect to the sublicensing activities to be conducted by DAS. DAS has the right to terminate the agreement at any time; accordingly, the Company's actual sublicense fees over the term of the agreement could be lower than $25.3 million. In addition, each party may terminate the agreement upon an uncured material breach by the other party. In the event of any termination of the agreement, all rights to use the Company's ZFP technology will revert to Sangamo, and DAS will no longer be permitted to practice Sangamo's ZFP technology or to develop or, except in limited circumstances, commercialize any products derived from the Company's ZFP technology.

There were no revenues recognized or costs and expenses incurred under this agreement during the three and six months ended June 30, 2017 and 2016, respectively.

Funding from Research Foundations

California Institute for Regenerative Medicine ("CIRM") - HIV

In May 2014, CIRM agreed to fund a $5.6 million Strategic Partnership Award to fund the clinical studies of a potentially curative therapeutic for HIV/AIDS based on the application of Sangamo's ZFN genome editing technology in hematopoietic stem and progenitor cells ("HSPCs"). The four-year grant provides matching funds to support evaluation of the Company's stem cell-based therapeutic in a clinical trial in HIV-infected individuals conducted at City of Hope.

There were no revenues attributable to research and development performed under this Strategic Partnership Award during the three and six months ended either June 30, 2017 or 2016. Related costs and expenses incurred under the CIRM Strategic Partnership Award were $0.1 million and $0.4 million during the three months ended June 30, 2017 and 2016, respectively, and $0.3 million and $0.7 million during the six months ended June 30, 2017 and 2016, respectively.

NOTE 6—INCOME TAXES

The Company maintains deferred tax assets that reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. These deferred tax assets include net operating loss carryforwards, research credits and capitalized research and development costs. Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain based on Sangamo's history of losses. Accordingly, the Company's net deferred tax assets have been fully offset by a valuation allowance. Utilization of operating losses and credits may be subject to substantial annual limitation due to ownership change provisions of the Internal Revenue Code of 1986, as amended and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization.

NOTE 7—STOCK-BASED COMPENSATION

The following table shows total stock-based compensation expense included in the condensed consolidated statements of operations for the three and six months ended June 30, 2017 and 2016 (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Research and development	$ 1,218	$ 1,728	$ 2,436	$ 3,578
General and administrative	746	5,471	2,315	6,815
Total stock-based compensation expense	$ 1,964	$ 7,199	$ 4,751	$ 10,393

Included in the above stock-based compensation table for the six months ended June 30, 2017 is $0.8 million related to a modification of options for the former chief financial officer who retired during the three months ended March 31, 2017. For the three months ended June 30, 2016 the Company recognized $4.1 million in stock-based compensation expense and $2.0 million in salary and benefits associated with separation costs for the transition of the Company's former chief executive officer in June 2016 (the "CEO Transition").

NOTE 8—BUILD-TO-SUIT LEASE

In December 2015, the Company entered into a long-term property lease which includes construction by the lessor of a building with approximately 41,400 square feet of space, in Richmond, California. Substantial completion of the building was accomplished in December 2016, at which time the lease commenced. The lease agreement expires in December 2021, five years after substantial completion of the building. The Company has two options to extend the lease term for up to a combined additional ten years.

The Company is deemed, for accounting purposes only, to be the owner of the entire project including the building shell, even though it is not the legal owner. In connection with the Company's accounting for this transaction, the Company capitalized the costs of construction as a build-to-suit property within property and equipment, net, and recognize a corresponding build-to-suit lease obligation for the same amount. As of June 30, 2017, $3.8 million of costs were capitalized in buildings with a corresponding build-to-suit lease obligation recognized related to this lease.

Construction has completed on the facility and as such a portion of the monthly lease payment is allocated to land rent and recorded as an operating lease expense and the non-interest portion of the amortized lease payments to the landlord related to the rent of the building is applied to reduce the build-to-suit lease obligation.

NOTE 9— STOCKHOLDERS' EQUITY

On May 26, 2017, the Company entered into an Amended and Restated At-the-Market Offering Program Sales Agreement (the "2017 ATM Agreement") with an investment bank pursuant to which the Company may issue and sell from time to time after the date of the 2017 ATM Agreement, shares of its common stock having an aggregate offering price of up to $75.0 million through the investment bank acting as the Company's sales agent. Under the 2017 ATM Agreement, if the Company decides to sell shares, the Company will notify the sales agent, and the sales agent will use its commercially reasonable efforts to sell on the Company's behalf all of the shares of common stock requested to be sold. Sales of the Company's common stock, if any, will be made at market prices by any method that is deemed to be an "at the market offering" as defined in Rule 415 under the Securities Act, as amended, including sales made directly on The NASDAQ Global Select Market and sales to or through a market maker other than on an exchange. In addition, with the Company's prior written consent, the sales agent may also sell shares of its common stock in negotiated transactions under the 2017 ATM Agreement. During the three months ended March 31, 2017, the Company issued a total of 871,149 shares of its common stock under the original At-the-Market Offering Program Sales Agreement entered into with the sales agent in December 2016, and received net proceeds of $3.4 million, after deducting offering expenses, including $0.1 million of commission paid to the sales agent. These shares were inadvertently sold under a registration statement filed with the SEC that had in fact expired prior to the time the shares were sold. Consequently, the Company may be subject to claims for rescission by purchasers who purchased shares of common stock under the ATM Agreement in March 2017. Under Section 12(a)(1) of the Securities Act, a purchaser of security in a transaction made in violation of Section 5 of the Securities Act may obtain recovery of the consideration paid in connection with its purchase, plus statutory interest, or, if it had already sold the shares, recover damages resulting from its purchase. While the Company believes, it is unlikely that a successful claim will be asserted against the Company by any purchasers who purchased shares of common stock under the ATM Agreement in March 2017, the Company cannot guarantee that no such legal claims will be asserted against the Company by any purchasers. In addition, the Company could become subject to enforcement actions and/or penalties and fines by federal authorities, and the Company is unable to predict the likelihood of any such enforcement actions being brought, or the amount of any such potential penalties or fines.

On June 26, 2017, Sangamo completed an underwritten public offering of its common stock, in which the Company sold an aggregate of 11.5 million shares of its common stock at a public offering price of $7.25 per share. The net proceeds to Sangamo from the sale of shares in this offering, after deducting underwriting discounts and commissions and other estimated offering expenses, were approximately $78.1 million.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The discussion in "Management's Discussion and Analysis of Financial Condition and Results of Operations" contains trend analysis, estimates and other forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements include, without limitation, statements containing the words "believes," "anticipates," "expects," "continue," and other words of similar import or the negative of those terms or expressions. Such forward-looking statements are subject to known and unknown risks, uncertainties, estimates and other factors that may cause our actual results, performance or achievements, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements , including but not limited to those described under the caption "Risk Factors" herein and in our Annual Report on Form 10-K for the year ended December 31, 2016, or 2016 Annual Report, as filed with the Securities and Exchange Commission, or SEC. You should read the following discussion and analysis along with the financial statements and notes attached to those statements included elsewhere in this report and in our 2016 Annual Report.

Overview

We are a clinical stage biotechnology company focused on translating ground-breaking science into genomic therapies that transform patients' lives using our industry-leading platform technologies in genome editing, gene therapy, gene regulation and cell therapy. Our proprietary zinc finger DNA-binding proteins, or ZFP technology enables efficient and highly specific genome editing and gene regulation, and we are developing genome editing and gene therapies for the treatment of genetically diverse diseases. We have several proprietary clinical and preclinical programs in development and have strategically partnered certain programs with biopharmaceutical companies to obtain funding for our own programs and to expedite clinical and commercial development. Our long-term goal is to forward integrate into manufacturing, development and commercial operations to more fully capture the value of our proprietary genome editing and gene therapy products.

We, and our licensed partners, are the leaders in the research, development and commercialization of ZFPs, a naturally occurring class of proteins found in humans. We have used our knowledge and expertise to develop a proprietary technology platform in both genome editing and gene regulation. ZFPs can be engineered to make zinc finger nucleases, or ZFNs, proteins that can be used to specifically modify DNA sequences by adding or knocking out specific genes (genome editing), and ZFP transcription factors or ZFP TFs, proteins that can be used to turn genes on or off (gene regulation). Although we are focused on the development of human therapeutic applications, ZFPs act at the DNA level and potentially have broad and fundamental applications in several other areas, such as plant agriculture and research reagents, including the production of transgenic animals and cell-line engineering. In the process of developing this platform we have accrued significant scientific, manufacturing and regulatory capabilities and know-how that is generally applicable in the broader field of gene therapy.

The main focus for our company is the development of human therapeutics. We have initiated Phase 1/2 clinical trials evaluating our proprietary ZFN *in vivo* genome editing approach for the treatment of hemophilia B, a blood disorder, Mucopolysaccharidosis I, or MPS I, and Mucopolysaccharidosis II, or MPS II, rare lysosomal storage disorders, or LSDs. We have also initiated a Phase 1/2 clinical trial evaluating a gene therapy for the treatment of hemophilia A, a blood disorder. In addition, we have proprietary preclinical programs in other LSDs and research stage programs in other monogenic diseases, including certain central nervous system disorders and cancer immunotherapy.

We have established a collaborative partnership with Bioverativ, Inc., or Bioverativ, a spin-out company from Biogen, Inc., to research, develop and commercialize therapeutic genome editing products in hemoglobinopathies, including sickle cell disease, or SCD and beta-thalassemia. We also have a collaborative partnership with Shire International GmbH, formerly Shire AG, or Shire, to research, develop and commercialize our preclinical development program in Huntington's disease.

On May 10, 2017, we entered into an Exclusive, Global Collaboration and License Agreement, or the Pfizer Agreement, with Pfizer Inc., or Pfizer, pursuant to which we and Pfizer established a collaboration for the research, development and commercialization of SB-525, our gene therapy product candidate for hemophilia A, and closely related products. Under the Pfizer Agreement, we will be responsible for conducting the Phase 1/2 clinical trial and certain manufacturing activities for SB-525, while Pfizer will be responsible for subsequent worldwide development, manufacturing, marketing and commercialization of SB-525. We and Pfizer may also collaborate in the research and development of additional adeno-associated virus or AAV-based gene therapy products for hemophilia A. See "Liquidity and Capital Resources" below.

Additionally, we have a legacy clinical development program evaluating SB-728-T, a ZFN-modified autologous T-cell product and SB-728-HSPC, a ZFN-modified autologous hematopoietic stem cell product for the treatment of HIV/AIDS. We have determined that HIV/AIDS is not a primary strategic focus for Sangamo, and we intend to seek collaborative partnerships before investing further in the development of human therapeutics for these indications.

In fields outside human therapeutics, we have entered into strategic partnerships to facilitate the sale or licensing of our ZFP platform. We have a license agreement with Sigma-Aldrich Corporation or Sigma. Under this agreement, Sigma has the exclusive rights to develop and market ZFP-based laboratory research reagents marketed under the trademark CompoZr ® as well as ZFP-modified cell lines for commercial production of protein pharmaceuticals and ZFP-engineered transgenic animals. We also have a license agreement with Dow AgroSciences, LLC or DAS, a wholly owned subsidiary of Dow Chemical Corporation. Under this agreement, DAS has the exclusive rights to use our ZFP technology to modify the genomes or alter protein expression of plant cells, plants, or plant cell cultures and markets our ZFN technology under the trademark EXZACT™ Precision Technology.

We have a substantial intellectual property position in the genome editing field including the design, selection, composition and use of engineered ZFPs to support our commercial activities. As of July 26, 2017, we either owned outright or have exclusively licensed the commercial rights to approximately 812 patents issued in the United States and foreign national jurisdictions, and 617 patent applications pending worldwide. We continue to license and file new patent applications that strengthen our core and accessory patent portfolio. We believe that our intellectual property position is a critical element in our ability to research, develop and commercialize products and services based on gene therapy, genome editing, cell therapy and gene regulation across our chosen applications.

In the development of our ZFP technology platform, we are focusing our resources on higher-value product development for therapeutic use in humans and less on our non-therapeutic applications. Development of novel therapeutic products is costly and subject to a lengthy and uncertain regulatory process at the U.S. Food and Drug Administration, or FDA. Our future products will be gene-based therapeutics. Adverse events in both our own clinical program and other programs may have a negative impact on regulatory approval, the willingness of potential commercial partners to enter into agreements and public perception for our therapeutic programs.

On January 5, 2017, we changed our corporate name from “Sangamo BioSciences, Inc.” to “Sangamo Therapeutics, Inc.” The new corporate name underscores our focus on clinical development of genomic therapies using our industry-leading platform technologies across genome editing, gene therapy, gene regulation and cell therapy.

Critical Accounting Estimates

The accompanying discussion and analysis of our financial condition and results of operations are based upon our condensed consolidated financial statements and the related disclosures, which have been prepared in accordance with generally accepted accounting principles in the United States. The preparation of these financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts in our consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe that there have been no significant changes in our critical accounting policies and estimates disclosed in our 2016 Annual Report.

Results of Operations

Three and six months ended June 30, 2017 and 2016

Revenues

	Three months ended June 30, (in thousands, except percentage values)				Six months ended June 30, (in thousands, except percentage values)			
	2017	2016	Change	%	2017	2016	Change	%
Revenues:								
Collaboration agreements	$ 7,977	$ 3,592	$ 4,385	122%	$ 11,283	$ 7,303	$ 3,980	54%
Research Grants	276	110	166	151%	395	341	54	16%
Total revenues	$ 8,253	$ 3,702	$ 4,551	123%	$ 11,678	$ 7,644	$ 4,034	53%

Total revenues consist of revenues from collaboration agreements and research grants. We anticipate revenues over the next several years will be derived primarily from our collaboration agreements with Pfizer, Bioverativ, DAS and Sigma.

Revenues from our corporate collaboration agreements were $8.0 million for the three months ended June 30, 2017, compared to $3.6 million in the corresponding period in 2016. The $4.4 million increase in collaboration agreements revenues was primarily due to an increase of $3.8 million in revenues related to the Pfizer Agreement and $1.0 million increase in revenues related to our agreement with Bioverativ, partially offset by a $0.3 million decrease in Shire revenue and $0.1 million decrease in Sigma revenue. The revenues from Pfizer included $3.8 million from partial recognition of an upfront fee of $70.0 million. Bioverativ included $3.1 million from research services and $0.4 million related to partial recognition of an upfront license fee of $20.0 million. The revenues from Shire included $0.6 million related to partial recognition of an upfront license fee of $13.0 million. Research grant revenues were approximately $0.3 million for the three months ended June 30, 2017, compared to $0.1 million in the corresponding period in 2016.

Revenues from our corporate collaboration agreements were $11.3 million for the six months ended June 30, 2017, compared to $7.3 million in the corresponding period in 2016. The increase of $4.0 million in collaboration agreement revenues was primarily attributable to a $3.8 million increase in revenues related to the Pfizer Agreement, a $0.5 million increase in revenues related to our agreement with Bioverativ, and $0.2 million increase in revenues related to our agreement with Sigma, partially offset by $0.6 million in revenue from our agreement with Shire. Research grant revenues were $0.4 million for the six months ended June 30, 2017, compared to $0.3 million in the corresponding period in 2016.

Operating Expenses

	Three months ended June 30, (in thousands, except percentage values)				Six months ended June 30, (in thousands, except percentage values)			
	2017	2016	Change	%	2017	2016	Change	%
Operating expenses:								
Research and development	$ 14,984	$ 19,454	$ (4,470)	(23%)	$ 27,926	$ 34,720	$ (6,794)	(20%)
General and administrative	6,037	11,090	(5,053)	(46%)	13,312	16,447	(3,135)	(19%)
Total expenses	$ 21,021	$ 30,544	$ (9,523)	(31%)	$ 41,238	$ 51,167	$ (9,929)	(19%)

Research and Development

Research and development expenses consist primarily of salaries and personnel-related expenses, including stock-based compensation, laboratory supplies, preclinical and clinical studies, manufacturing expenses, allocated facilities expenses, subcontracted research expenses and expenses for technology licenses. In 2015, we established a Technical Operations group to manage the relationships with third-party vendors used in our manufacturing processes as well as to improve our process development and increase our overall manufacturing capabilities. We expect to continue to devote substantial resources to research and development in the future and expect research and development expenses to increase in the next several years if we are successful in advancing our AAV cDNA for treatment of hemophilia A and our *in vivo* genome editing programs in the clinic and if we are able to progress our earlier stage product candidates into clinical trials including our programs under our collaboration with Bioverativ. Pursuant to the terms of the agreement with Bioverativ, certain of our expenses related to research and development activities will be reimbursed, including employee and external research costs. The reimbursement funds received from Bioverativ are recognized as revenue as the costs are incurred and collection is reasonably assured. We also continue to fulfill our obligations under the terms of our non-therapeutic collaboration agreements with Sigma and DAS. In addition, to the extent we continue to receive royalties from Sigma, we will incur fees related to certain technologies that we have in-licensed.

Research and development expenses were $15.0 million for the three months ended June 30, 2017, compared to $19.5 million in the corresponding period in 2016. The decrease of $4.5 million in research and development expenses was primarily due to decreases of $4.8 million in manufacturing and research expenses as our programs move into the clinic, $1.1 million in lab supply expenses, and $0.5 million in stock-based compensation expense, partially offset by an increase of $1.3 million in clinical trial expense and $0.9 million in salaries and benefits.

Research and development expenses were $27.9 million for the six months ended June 30, 2017, compared to $34.7 million in the corresponding period in 2016. The decrease of $6.8 million in research and development expenses was primarily due to decreases of $7.8 million in manufacturing and research expenses as our programs move into the clinic, $1.8 million in lab supply expenses, and $1.1 million in stock-based compensation expense, partially offset by an increase of $2.0 million in clinical trial expense and $1.9 million in salaries and benefits.

General and Administrative

General and administrative expenses consist primarily of salaries and personnel-related expenses, including stock-based compensation, other expenses for executive, finance and administrative personnel, professional fees, allocated facilities expenses, patent prosecution expenses and other general corporate expenses. As we pursue commercial development of our therapeutic programs, we expect our business aspects to become more complex. We may be required to add personnel and incur additional expenses related to the maturity of our business.

General and administrative expenses were $6.0 million for the three months ended June 30, 2017, compared to $11.1 million for the corresponding period in 2016. The decrease of $5.1 million in general and administrative expenses was primarily due to decreases of $4.7 million in stock-based compensation and $1.5 million in salaries and benefits which include separation costs associated with the CEO Transition, partially offset by an increase of $0.6 million in corporate expenses, $0.3 million in legal expenses, and $0.2 million for facility expenses.

General and administrative expenses were $13.3 million for the six months ended June 30, 2017, compared to $16.4 million for the corresponding period in 2016. The decrease of $3.1 million in general and administrative expenses was primarily due to decreases of $4.5 million in stock-based compensation, and $0.7 million in salaries which include separation costs associated with the CEO Transition, partially offset by an increase of $1.1 million in legal expenses, $0.6 million in corporate expenses, and $0.4 million in facility expenses.

Liquidity and Capital Resources

Liquidity

Since inception, we have incurred significant net losses and we have funded our operations primarily through the issuance of equity securities, payments from corporate collaborators and strategic partners and research grants.

As of June 30, 2017, we had cash, cash equivalents, marketable securities and interest receivable totaling $266.5 million compared to $142.8 million as of December 31, 2016, with the increase primarily attributable to our completion of an underwritten public offering of our common stock in June 2017, in which 11.5 million shares of our common stock were sold at a public offering price of $7.25 per share. Net proceeds to the Company, after deducting underwriting discounts and commissions and other estimated offering expenses, were appropriately $78.1 million. Cash, cash equivalents, and marketable security further increased attributable to $70.0 million for the upfront license and service fee received from Pfizer pursuant to the Pfizer Agreement.

Our most significant use of capital pertains to salaries and benefits for our employees and external research and development expenses, such as manufacturing, clinical trials and preclinical activity related to our therapeutic programs. Our cash and investment balances are held in a variety of interest bearing instruments, including obligations of U.S. government agencies, U.S. Treasury debt securities, corporate debt securities and money market funds. Cash in excess of immediate requirements is invested in accordance with our investment policy with a view toward capital preservation and liquidity.

Under our agreement with Shire, we received an upfront license fee of $13.0 million in 2012. In addition, Shire agreed to reimburse us for agreed upon costs incurred in connection with research and development activities that we conducted and to pay us certain milestone payments based on our achievement of specified research, regulatory, clinical development, commercialization and sales milestones, which depended upon our ability with Shire to continue to progress our programs under collaboration. We were also eligible to receive royalty payments on net sales of products developed under the collaboration, if any. On September 1, 2015, we amended our agreement with Shire such that going forward, each company is responsible for expenses associated with its own programs and will reimburse the other for any ongoing services provided. Under the amended agreement, Shire does not have any milestone payment obligations to us with respect to the retained programs, but it is required to pay single digit percentage royalties to us, up to a specified maximum cap, on the commercial sales of ZFP therapeutic products from such programs. Under the agreement, we have full control over, and full responsibility for the costs of, the hemophilia programs returned to us, subject to certain diligence obligations and Shire’s right of first negotiation to obtain a license to such programs under certain circumstances. We are required to pay single digit percentage royalties to Shire, up to a specified maximum cap, on commercial sales of ZFP therapeutic products from such returned programs.

On May 26, 2017, the Company entered into an Amended and Restated At-the-Market Offering Program Sales Agreement with an investment bank pursuant to which the Company may issue and sell from time to time shares of its common stock having an aggregate offering price of up to $75.0 million through the investment bank acting as the Company's sales agent, or the 2017 ATM Agreement. Under the 2017 ATM Agreement, if the Company decides to sell shares, the Company will notify the sales agent, and the sales agent will use its commercially reasonable efforts to sell on the Company's behalf all of the shares of common stock requested to be sold. Sales of the Company's common stock, if any, will be made at market prices by any method that is deemed to be an "at the market offering" as defined in Rule 415 under the Securities Act, as amended, including sales made directly on The NASDAQ Global Select Market and sales to or through a market maker other than on an exchange. In addition, with the Company's prior written consent, the sales agent may also sell shares of its common stock in negotiated transactions under the 2017 ATM Agreement. During the three months ended March 31, 2017, the Company issued a total of 871,149 shares of its common stock under the original At-the-Market Offering Program Sales Agreement entered into during December 2016, and received net proceeds of $3.4 million, after deducting offering expenses, including $0.1 million of commission paid to the sales agent. These shares were inadvertently sold under a registration statement filed with the SEC that had in fact expired prior to the time the shares were sold and accordingly, these shares are subject to potential rescission rights, as described in more detail under "Risk Factors" in Part II, Item 1A of this Quarterly Report on Form 10-Q. In addition, if it were determined that the Company sold unregistered securities, the Company could be subject to enforcement actions or penalties and fines by regulatory authorities. The Company has not sold any common stock under the 2017 ATM Agreement and the full $75.0 million provided for under the 2017 ATM Agreement remained available for sale thereunder at June 30, 2017.

On May 10, 2017, we entered into the Pfizer Agreement, pursuant to which we received an upfront payment of $70.0 million from Pfizer. Pfizer will reimburse us for certain costs incurred in connection with the SB-525 Phase 1/2 trial and certain manufacturing activities for SB-525, above a specified amount. In addition, we are eligible to receive development milestone payments contingent on the achievement of specified clinical development, intellectual property, regulatory and first commercial sale milestones for SB-525 and potentially for other products. The total amount of potential clinical development, intellectual property, regulatory, and first commercial sale milestone payments, assuming the achievement of all specified milestones in the Agreement, is $475.0 million, which includes up to $300.0 million for SB-525 and up to $175.0 million for other products that may be developed under the Pfizer Agreement, subject to reduction on account of payments made under certain licenses for third party intellectual property. In addition, Pfizer has agreed to pay us royalties for each licensed product that are an escalating tiered, double-digit percentage of the annual net sales of such product, and are subject to reduction due to patent expiration, entry of biosimilar products to the market and payments made under certain licenses for third party intellectual property.

Cash Flows

Operating activities. Net cash provided by operating activities for the six months ended June 30, 2017 was $43.7 million. Net cash used in operating activities was $36.5 million for the six months ended June 30, 2016. Net cash provided by operating activities for the six months ended June 30, 2017 primarily reflected the increase in deferred revenue for the period as a result of the Pfizer Agreement, as well as increased accrued liabilities partially offset by the net loss for the period as well as a decrease in account receivable and stock-based compensation. Net cash used in operating activities for the six months ended June 30, 2016 primarily reflected the increase in net loss for the period as well as a decrease in accrued liabilities and deferred revenue, partially offset by the increase in stock-based compensation.

Investing activities. Net cash used in investing activities for the six months ended June 30, 2017 and 2016, was $78.3 million and $20.2 million, respectively. Cash flows from investing activities for both periods primarily related to purchases and maturities of investments.

Financing activities. Net cash provided by financing activities for the six months ended June 30, 2017 and 2016 was $82.4 million and $0.2 million, respectively. Net cash provided by financing activities for the six month period ended June 30, 2017 was primarily related to the completion of an underwritten public offering of our common stock, net of issuance costs. Net cash provided by financing activities for the six month period ended June 30, 2016 was primarily related to the issuance of common stock upon exercise of stock options.

Operating Capital and Capital Expenditure Requirements

We anticipate continuing to incur operating losses for at least the next several years. While our rate of cash usage may increase in the future, in particular to support our product development endeavors, we believe our available cash resources as well as funds received from corporate collaborators, strategic partners and research grants will enable us to maintain our currently planned operations through 2018. Future capital requirements will be substantial, and if our capital resources are insufficient to meet future capital requirements, we will need to raise additional capital to fund our operations, including gene therapy development activities, through equity or debt financing. We regularly consider fund raising opportunities and may decide, from time to time, to raise capital based on various factors, including market conditions and our plans of operation. Additional capital may not be available on terms acceptable to us, or at all. If adequate funds are not available, or if the terms of potential funding sources are unfavorable, our business and our ability to develop our technology and our gene therapy products would be harmed. Furthermore, any sales of additional equity securities may result in dilution to our stockholders, and any debt financing may include covenants that restrict our business.

Our future capital requirements will depend on many factors and are not limited to the following:

- the initiation, progress, timing and completion of clinical trials for our product candidates;
- the outcome, timing and cost of regulatory approvals;
- the success of our collaboration agreements with third parties, including Pfizer, Bioverativ and Shire;
- delays that may be caused by changing regulatory requirements;
- the number of product candidates that we pursue;
- the costs involved in filing and prosecuting patent applications and enforcing and defending patent claims;
- the timing and terms of future in-licensing and out-licensing transactions;
- the cost and timing of establishing sales, marketing, manufacturing and distribution capabilities;
- the cost of procuring clinical and commercial supplies of our product candidates;
- the extent to which we acquire or invest in businesses, products or technologies; and
- the possible costs of litigation.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements as defined in Regulation S-K, Item 303(a)(4)(ii).

Contractual Obligations and Commercial Commitments

Our future minimum contractual commitments were reported in our 2016 Annual Report and there have been no material changes outside the ordinary course of business in the previously disclosed contractual commitments during six months ended June 30, 2017.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our primary exposure to market risk is interest income sensitivity relating to our cash, cash equivalents and investments, which is affected by changes in the general level of U.S. interest rates. We do not have any foreign currency or other derivative financial instruments.

Our market risks at June 30, 2017 have not changed materially from those discussed in Item 7A of our 2016 Annual Report.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to provide reasonable assurance that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable, and not absolute, assurance of achieving the desired control objectives. In reaching a reasonable level of assurance, management necessarily was required to apply its judgment in evaluating the cost benefit relationship of possible controls and procedures.

As required by the Securities and Exchange Commission Rule 13a-15(b), we carried out an evaluation, under the supervision of and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this report. Based on the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level.

Change in Internal Control over Financial Reporting

There has been no change in our internal controls over financial reporting during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are not party to any material pending legal proceedings. From time to time, we may be involved in legal proceedings arising in the ordinary course of business.

ITEM 1A. RISK FACTORS

An investment in our common stock involves significant risk. You should carefully consider the information described in the following risk factors, together with the other information appearing elsewhere in this report, before making an investment decision regarding our common stock. While the risk factors set forth below update and supplement the risk factors set forth in the 2016 Annual Report, you should review our 2016 Annual Report, including the section under the caption "Item 1A. Risk Factors," together with the other information appearing elsewhere in this report, before making an investment decision regarding our common stock. We have marked with an asterisk (*) those risks described below that reflect substantive changes from the risks described in our 2016 Annual Report. If any of the risks described below or in our 2016 Annual Report actually occur, our business, financial conditions, results of operation and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or a part of your investment in our common stock. Moreover, the risks described below and in our 2016 Annual Report are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business, operating results, prospects or financial condition. You should carefully consider these risk factors, together with all of the other information included in this Quarterly Report as well as our other publicly available filings with the SEC.

Risks Relating to Development, Commercialization and Regulatory Approval of our Products and Technology

Our success depends substantially on the results of clinical trials of our lead therapeutic programs, and we may not be able to demonstrate long-term safety and efficacy of product candidates in these programs.

We have opened enrollment for Phase 1/2 clinical trials evaluating product candidates for the treatment of hemophilia A, hemophilia B, MPS I (Hurler syndrome) and MPS II (Hunter syndrome). Our success and prospects depend substantially on the progress of these highly visible lead programs. Our failure to enroll sufficient patients to conduct the trials, demonstrate safety or obtain positive clinical trial results, or our inability to meet the expected timeline of clinical trials or release of data, for these programs would have a material adverse effect on our business operations and financial conditions, which may cause a significant decline in our stock price.

While we have achieved positive results in preclinical studies of these product candidates, they have not been tested in humans, and there is no guarantee that we can duplicate such positive safety and efficacy results in clinical trials. Furthermore, all four programs are novel *in-vivo* gene therapy or genome editing therapies that utilize adeno-associated virus or AAV, approach to deliver therapeutic level of ZFN into the patient's blood stream. The AAV delivery system has not been validated in human clinical trials previously, and if such delivery system does not meet the safety criteria or cannot produce the desirable efficacy results as we expected, we may be forced to suspend or terminate all four programs.

Our ability to advance clinical trials successfully and on a timely basis for these programs is subject to a number of additional risks, including but are not limited to the following:

- the ability to identify and recruit sufficient number of acceptable patients to complete enrollment of trials;
- the occurrence of unexpected adverse events or toxicity;
- disagreement with the FDA on the interpretation of our clinical trial results;
- defects in the preparation and manufacturing of our product candidates;
- failure by third parties, including vendors, manufacturers and clinical trial organizations, to provide timely and adequate supplies and services;
- development of similar gene therapies by our competitors;
- unexpected costs and expenses and lack of sufficient funding for these programs; and
- loss of licenses to critical intellectual properties.

Even if we are able to complete phase 1/2 trials for these programs successfully, we will likely be required to conduct additional clinical trials with larger patient populations, before obtaining the necessary regulatory approval to commercialize our products. However, there is no guarantee that the positive results achieved in earlier trials are indicative of long-term efficacy in late stage clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late stage clinical trials even after achieving promising results in earlier-stage clinical trials. If a larger population of patients does not experience positive results, or if these results are not reproducible, our products may not receive approval from the FDA, which could have a material adverse effect on our business that would cause our stock price to decline significantly.

Our potential therapeutic products are subject to a lengthy and uncertain regulatory process, and we may encounter unanticipated toxicity or adverse events or fail to demonstrate efficacy, causing us to delay, suspend or terminate a development program which will prevent us from commercializing those products.

The FDA must approve any human therapeutic product before it can be marketed in the United States. The process for receiving regulatory approval is long and uncertain, and a potential product may not withstand the rigors of testing under the regulatory approval processes.

Before commencing clinical trials in humans, we must submit an Investigational New Drug, or IND, application to the FDA. The FDA has 30 days to comment on the application, and if the agency has no comments, we or our commercial partner may begin clinical trials. While we have stated our intention to file additional IND applications in the future, this is only a statement of intent, and we may not be able to do so because the associated product candidates may not meet the necessary preclinical requirements. In addition, there can be no assurance that, once filed, an IND application will result in the actual initiation of clinical trials or that we will be able to meet our targeted timeline for the initiation of clinical trials. Clinical trials are subject to oversight by institutional review boards and the FDA. In addition, our proposed clinical studies may require review from the Recombinant DNA Advisory Committee or RAC, which is the advisory board to the National Institutes of Health, or NIH, focusing on clinical trials involving gene transfer.

Clinical trials:

- must be conducted in conformance with the FDA's good clinical practices, within the guidelines of the International Council for Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use or ICH and other applicable regulations;
- must meet requirements for Institutional Review Board, or IRB, oversight;
- must follow Institutional Biosafety Committee, or IBC, and NIH RAC guidelines where applicable;
- must meet requirements for informed consent;
- are subject to continuing FDA oversight;
- may require oversight by a Data Safety Monitoring Board, or DSMB;
- may require large numbers of test subjects; and
- may be suspended by a commercial partner, the FDA, or us at any time if it is believed that the subjects participating in these trials are being exposed to unacceptable health risks or if the FDA finds deficiencies in the IND application or the conduct of these trials.

If we are not able to obtain the necessary regulatory approval to commercialize our products of if such approval is delayed or suspended, it would have an adverse effect on our business operations and trading price of our common stock.

While we have stated we intend to continue to advance additional early research programs through preclinical development and IND application filings and into clinical development, we may encounter difficulties that may delay, suspend or scale back our efforts.

In the future we intend to advance early research programs through preclinical development and to file new IND applications for human clinical trials evaluating these candidates. The preparation and submission of IND applications requires us to conduct rigorous and time-consuming preclinical testing, studies, and prepare documentation relating to, among other things, the toxicity, safety, manufacturing, chemistry and clinical protocol of our product candidates. We may experience unforeseen difficulties that could delay or otherwise prevent us from executing this strategy successfully. For example, we may encounter problems in the manufacturing of our products and fail to demonstrate consistency in the formulation of the drug. Our preclinical tests may produce negative or inconclusive results, which may lead us to decide, or regulators may require us, to conduct additional preclinical testing. If we cannot obtain positive results in preclinical testing, we may decide to abandon the projects altogether. In addition, our ability to complete and file certain IND applications depends on the support of our partners and the timely performance of their obligations under relevant collaboration agreements. If our partners are not able to perform such obligations or if they choose to slow down or delay the progress, we may not be able to prepare and file the intended IND applications on a timely basis or at all. Furthermore, the filing of several IND applications involves significant cost and labor, and we may not have sufficient resources and personnel to complete the filing of all intended IND applications, which may force us to scale back the number of IND applications or forego potential IND applications that we believe are promising. Any delay, suspension or reduction of our efforts to pursue our preclinical and IND strategy could have a material adverse effect on our business and cause our stock price to decline.

We may not be able to find acceptable patients or may experience delays in enrolling patients for our clinical trials.

We may experience difficulties or delays in recruiting and enrolling a sufficient number of patients to participate in our clinical trials due to a variety of reasons, including competition from other clinical trial programs for the same indication, failure of patients to meet our enrollment criteria and premature withdrawals of patients prior to the completion of clinical trials.

In addition, the FDA and institutional review boards may also require large numbers of patients, and the FDA may require that we repeat a clinical trial. Any delay resulting from our failure to enroll a sufficient number of patients on a timely basis may have a material adverse effect on our business.

As we cannot predict whether or when we will obtain regulatory approval to commercialize our product candidates, we cannot predict the timing of any future revenue from these product candidates.

We cannot commercialize any of our products to generate revenue until the appropriate regulatory authorities have reviewed and approved the applications for the product candidates. We cannot ensure that the regulatory agencies will complete their review processes in a timely manner or that we will obtain regulatory approval for any product candidate that we or our collaborators develop. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product and requires the expenditure of substantial resources. Regulatory approval processes outside the United States include all of the risks associated with the FDA approval process. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action or changes in FDA policy during the period of product development, clinical trials and FDA regulatory review.

****We have limited experience in conducting advanced clinical trials.***

We have initiated Phase 1/2 clinical trials evaluating product candidates for hemophilia A, hemophilia B, and two LSDs, MPS I (Hurler syndrome) and MPS II (Hunter syndrome). For potential marketing application approval, additional clinical testing will be required, which involves significantly greater resources, commitments and expertise. Therefore, we may be required to scale up our operations and enter into collaborative relationships with pharmaceutical companies that could assume responsibility for late-stage development and commercialization.

We have limited experience in conducting advanced clinical trials and may not possess the necessary resources and expertise to complete such trials, and we may need to seek partnerships or collaboration with third parties to advance these trials. We have entered into a collaborative agreement with Bioverativ to provide funding and assistance in the development of certain product candidates through the clinical trial process. Under the agreement with Bioverativ, we are responsible for all research and development through the first human clinical trial for the treatment of beta-thalassemia and both parties are responsible for research and development through the submission of IND for product candidates to treat sickle cell disease, SCD. On May 10, 2017, we entered into an agreement with Pfizer to establish a collaboration for the research, development and commercialization of SB-525 for hemophilia A, and closely related products. However, there is no guarantee that we will be able to enter into future collaborative relationships with third parties that can provide us with the funding and expertise for later stage trials.

Commercialization of our technologies will depend, in part, on strategic partnering with other companies. If we are not able to find partners in the future or if our partners do not diligently pursue product development efforts, we may not be able to develop our technologies or products, which could slow our growth and decrease the value of our stock.

We expect to rely, to some extent, on our strategic partners to provide funding in support of our research and to perform independent research and preclinical and clinical testing. Our technology is broad-based, and we do not currently possess the resources necessary to fully develop and commercialize potential products that may result from our technologies or the resources or capabilities to complete the lengthy marketing approval processes that may be required for the products. Therefore, we plan to rely on strategic partnerships to help us develop and commercialize our products.

We have entered into a collaborative agreement with Bioverativ to provide funding and assistance in the development of certain product candidates through the clinical trial process. Under the agreement with Bioverativ, we are responsible for all research and development through the first human clinical trial for the treatment of beta-thalassemia and both parties are responsible for research and development through the submission of IND for product candidates to treat sickle cell disease (SCD). On May 10, 2017, we entered into an agreement with Pfizer to establish a collaboration for the research, development and commercialization of SB-525 for hemophilia A, and closely related products. Under the agreement with Pfizer, we are responsible for conducting the Phase 1/2 clinical trial and certain manufacturing activities for SB-525, while Pfizer will be responsible for subsequent worldwide development, manufacturing, marketing and commercialization of SB-525. Sangamo and Pfizer may also collaborate in the research and development of additional adeno-associated virus, or AAV based gene therapy products for hemophilia A. We also intend to seek partnership for our clinical programs for the treatment of HIV/AIDs.

If we are unable to find partners or if the partners we find, such as Bioverativ, Pfizer and Shire, are unable or unwilling to advance our programs, or if they do not diligently pursue product approval, this may slow our progress and adversely affect our ability to generate revenues. In addition, our partners may sublicense or abandon development programs or we may have disagreements or disputes with our partners, which would cause associated product development to slow or cease. In addition, the business or operations of our partners may change significantly through restructuring, acquisition or other strategic transactions or decisions that may negatively impact their ability to advance our programs.

There can be no assurance that we will be able to establish further strategic collaborations for our products. We may require significant time to secure collaborations or partners because we need to effectively market the benefits of our technology to these future collaborators and partners, which may direct the attention and resources of our research and development personnel and management away from our primary business operations. Further, each collaboration or partnering arrangement will involve the negotiation of terms that may be unique to each collaborator or partner. These business development efforts may not result in a collaboration or partnership.

The loss of partnering agreements may delay or terminate the potential development or commercialization of products we may derive from our technologies, but it may also delay or terminate our ability to test our product candidates. If any partner fails to conduct the collaborative activities successfully or in a timely manner, the preclinical or clinical development or commercialization of the affected product candidates or research programs could be delayed or terminated.

Under typical partnering agreements, we would expect to receive revenue for the research and development of our product candidates based on achievement of specific milestones, as well as royalties based on a percentage of sales of the commercialized products. Achieving these milestones will depend, in part, on the efforts of our partner as well as our own. If we, or any partner, fail to meet specific milestones, then the partnership may be terminated, which could reduce our revenues. For more information on risks relating to our third-party collaborative agreements, see “Risks Relating to our Collaborative Relationships.”

We may be unable to license gene transfer technologies that we may need to commercialize our ZFP technology.

In order to regulate or modify a gene in a cell, the ZFP must be efficiently delivered to the cell. We have licensed certain gene transfer technologies for our ZFP in research including AAV and mRNA technology. We are evaluating these systems and other technologies that may need to be used in the delivery of ZFP into cells for *in vitro* and *in vivo* applications. However, we may not be able to license the gene transfer technologies required to develop and commercialize our product candidates. We have not developed our own gene transfer technologies, and we rely on our ability to enter into license agreements to provide us with rights to the necessary gene transfer technology. Our approach has been to license appropriate technology as required. The inability to obtain a license to use gene transfer technologies with entities which own such technology on reasonable commercial terms, if at all, could delay or prevent the preclinical evaluation, drug development collaborations, clinical testing, and/or commercialization of our therapeutic product candidates.

Our gene regulation and genome editing technology is relatively new, and if we are unable to use this technology in all our intended applications, it would limit our revenue opportunities.

Our technology involves a relatively new approach to gene regulation and genome editing. Although we have generated ZFPs for thousands of gene sequences, we have not created ZFPs for all gene sequences and may not be able do so, which could limit the usefulness of our technology. In addition, while we have demonstrated the function of engineered ZFNs and ZFP TFs in mammalian cells, yeast, insects, plants and animals, we have not yet demonstrated clinical efficacy of this technology in a controlled clinical trial in humans, and the failure to do so could restrict our ability to develop commercially viable products. If we, and our collaborators or strategic partners, are unable to extend our results to new commercially important genes, experimental animal models, and human clinical studies, we may be unable to use our technology in all its intended applications.

The expected value and utility of our ZFNs and ZFP TFs is in part based on our belief that the targeted editing of genes or specific regulation of gene expression may enable us to develop a new therapeutic approach as well as to help scientists better understand the role of genes in disease, and to aid their efforts in drug discovery and development. We also believe that ZFP-mediated targeted genome editing and gene regulation will have utility in agricultural applications. There is only a limited understanding of the role of specific genes in all these fields. Life sciences companies have developed or commercialized only a few products in any of these fields based on results from genomic research or the ability to regulate gene expression. We, our collaborators or our strategic partners, may not be able to use our technology to identify and validate drug targets or to develop commercial products in the intended markets.

Effective delivery of ZFNs and ZFP TFs into the appropriate target cells and tissues is critical to the success of the therapeutic applications of our ZFP technology. In order to have a meaningful therapeutic effect, these products must be delivered to sufficient numbers of cells in the targeted tissue. The ZFN or ZFP TF must be present in that tissue for sufficient time to effect either modification of a therapeutically relevant gene or regulation of its expression. In our current clinical and preclinical programs, we administer these product candidates as a nucleic acid that encodes the ZFN or ZFP TF. We use different formulations to deliver the ZFN or ZFP TF depending on the required duration of expression, the targeted tissue and the indication that we intend to treat, including our proprietary AAV delivery system. However, there can be no assurances that we will be able to effectively deliver our ZFNs and ZFP TFs to produce a beneficial therapeutic effect.

We are conducting proprietary research to discover new product candidates. These programs increase our financial risk of product failure, may significantly increase our research expenditures, and may involve conflicts with future collaborators and strategic partners.

Our proprietary research programs consist of research that is funded solely by us or by grant funding and in which we retain exclusive rights to therapeutic products generated by such research. This is in contrast to certain of our research programs that may be funded by corporate partners in which we may share rights to any resulting products. Conducting proprietary research programs may not generate corresponding revenue and may create conflicts with our collaborators or strategic partners over rights to our intellectual property with respect to our proprietary research activities. Any conflict with our collaborators or strategic partners could reduce our ability to enter into future collaborations or partnering agreements and negatively impact our relationship with existing collaborators and partners that could reduce our revenue and delay or terminate our product development. As we continue to focus our strategy on proprietary research and therapeutic development, we expect to experience greater business risks, expend significantly greater funds and require substantial commitments of time from our management and staff.

Even if our technology proves to be effective, it still may not lead to commercially viable products.

Even if our collaborators or strategic partners are successful in using our ZFP technology in drug discovery, protein production, therapeutic development or plant agriculture, they may not be able to commercialize the resulting products or may decide to use other methods competitive with our technology. To date, no company has received marketing approval or has developed or commercialized any therapeutic or agricultural products based on our technology. Should our technology fail to provide safe, effective, useful or commercially viable approaches to the discovery and development of these products, this would significantly limit our business and future growth and would adversely affect our value.

Even if our product development efforts are successful and even if the requisite regulatory approvals are obtained, our products may not gain market acceptance among physicians, patients, healthcare payers and the medical community.

A number of additional factors may limit the market acceptance of our products including the following:

- rate of adoption by healthcare practitioners;
- rate of a product’s acceptance by the target population;
- timing of market entry relative to competitive products;

- availability of alternative therapies;
- price of our product relative to alternative therapies;
- availability of third-party reimbursement;
- extent of marketing efforts by us and third-party distributors or agents retained by us; and
- side-effects or unfavorable publicity concerning our products or similar products.

Therefore, even after we have obtained the required regulatory approval for our products, we may not be able to commercialize these products successfully if we cannot achieve an adequate level of market acceptance.

Regulatory approval, if granted, will be limited to specific uses or geographic areas, which could limit our ability to generate revenues.

Regulatory approval will be limited to the indicated use for which we can market a product. Further, once regulatory approval for a product is obtained, the product and its manufacturer are subject to continual review. Discovery of previously unknown problems with a product or manufacturer may result in restrictions on the product, manufacturer, and manufacturing facility, including withdrawal of the product from the market. In Japan and Europe, regulatory agencies also set or approve prices.

Even if regulatory clearance of a product is granted, this clearance is limited to those specific states and conditions for which the product is useful, as demonstrated through clinical trials. We cannot ensure that any product developed by us, alone or with others, will prove to be safe and effective in clinical trials and will meet all of the applicable regulatory requirements needed to receive marketing clearance in a given country.

Outside the United States, our ability to market a product is contingent upon receiving a marketing authorization from appropriate regulatory authorities; therefore we cannot predict whether or when we would be permitted to commercialize our product outside the United States. These foreign regulatory approval processes include all of the risks associated with FDA clearance described above.

We currently rely on third parties to conduct some or all aspects of manufacturing of our product candidates for preclinical and clinical development. If one of our third-party manufacturers fails to perform adequately or fulfill our needs, we may be required to incur significant costs and devote significant efforts, to find new suppliers or manufacturers.

We currently have limited experience in, and we do not own facilities for, clinical-scale manufacturing of our product candidates and we rely upon third-party contract manufacturing organizations to manufacture and supply drug product for our preclinical and clinical studies. The manufacture of pharmaceutical products in compliance with the FDA's current good manufacturing practices, or cGMP, requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in production, including difficulties with production costs and yields, quality control, including stability of the product candidate and quality assurance testing, shortages of qualified personnel, as well as compliance with strictly enforced cGMP requirements, other federal and state regulatory requirements and foreign regulations. If our manufacturers were to encounter any of these difficulties or otherwise fail to comply with their obligations to us or under applicable regulations, our ability to provide study drugs in our clinical studies would be jeopardized. Any delay or interruption in the supply of clinical study materials could delay the completion of our clinical studies, increase the costs associated with maintaining our clinical study programs and, depending upon the period of delay, require us to commence new studies at significant additional expense or terminate the studies completely.

All manufacturers of our product candidates must comply with cGMP requirements enforced by the FDA through its facilities inspection program. These requirements include, among other things, quality control, quality assurance and the maintenance of records and documentation. Manufacturers of our product candidates may be unable to comply with these cGMP requirements and with other FDA, state and foreign regulatory requirements. The FDA or similar foreign regulatory agencies may also implement new standards at any time, or change their interpretation and enforcement of existing standards for manufacture, packaging or testing of products. We have little control over our manufacturers' compliance with these regulations and standards. Failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall or withdrawal of product approval. If the safety of any product supplied is compromised due to our manufacturers' failure to adhere to applicable laws or for other reasons, we may not be able to obtain regulatory approval for or successfully commercialize our products and we may be held liable for any injuries sustained as a result. Any of these factors could cause a delay of clinical studies, regulatory submissions, approvals or commercialization of our product candidates, entail higher costs or impair our reputation.

Our current agreements with our suppliers do not provide for the entire supply of the drug product necessary for all anticipated clinical studies or for full scale commercialization. If we and our suppliers cannot agree to the terms and conditions for them to provide the drug product necessary for our clinical and commercial supply needs, we may not be able to manufacture the product candidate until a qualified alternative supplier is identified, which could also delay the development of, and impair our ability to commercialize, our product candidates.

The number of third-party suppliers with the necessary manufacturing and regulatory expertise and facilities is limited, and it could be expensive and take a significant amount of time to arrange for alternative suppliers, which could have a material adverse effect on our business. New suppliers of any product candidate would be required to qualify under applicable regulatory requirements and would need to have sufficient rights under applicable intellectual property laws to the method of manufacturing the product candidate. Obtaining the necessary FDA approvals or other qualifications under applicable regulatory requirements and ensuring non-infringement of third-party intellectual property rights could result in a significant interruption of supply and could require the new manufacturer to bear significant additional costs which may be passed on to us.

We do not currently have the infrastructure or capability to manufacture, market and sell therapeutic products on a commercial scale.

In order for us to commercialize our therapeutic products directly, we would need to develop, or obtain through outsourcing arrangements, the capability to manufacture, market and sell our products on a commercial scale. Currently, we do not have the ability nor the financial resources to establish the infrastructure and organizations needed to execute these functions, including such infrastructure needed for the commercialization of any product from our therapeutic program, which can be complex and costly. If we are unable to establish adequate manufacturing, sales, marketing and distribution capabilities, we will not be able to directly commercialize our therapeutics products, which would limit our future growth.

Risks Relating to our Industry

If our competitors develop, acquire, or market technologies or products that are more effective than ours, this would reduce or eliminate our commercial opportunity.

Any products that we or our collaborators or strategic partners develop by using our ZFP technology platform will enter into highly competitive markets. Even if we are able to generate products that are safe and effective for their intended use, competing technologies may prove to be more effective or less expensive, which, to the extent these competing technologies achieve market acceptance, will limit our revenue opportunities. In some cases, competing technologies have proven to be effective and less expensive. Competing technologies may include other methods of regulating gene expression or modifying genes. ZFNs and ZFP TFs have broad application in the life sciences industry and compete with a broad array of new technologies and approaches being applied to genetic research by many companies. Competing proprietary technologies with our product development focus include but are not limited to:

- For genome editing and gene therapy products:
    - recombinant proteins;
    - other gene therapy/cDNAs;
    - antisense;
    - siRNA and microRNA approaches, exon skipping;
    - small molecule drugs;
    - monoclonal antibodies;
    - CRISPR/Cas technology; and
    - TALE proteins, meganucleases, and MegaTALs.
- For our Non-Therapeutic Applications:
    - *For protein production:* gene amplification, CRISPR/Cas technology, TALE technology, insulator technology, and mini-chromosomes;
    - *For target validation:* antisense, siRNA, TALE technology and CRISPR/Cas technology;

- *For plant agriculture:* recombination approaches, mutagenesis approaches, TALE technology, CRISPR/Cas technology, mini-chromosomes; and
- *For transgenic animals:* somatic nuclear transfer, embryonic stem cell, TALE, CRISPR/Cas technology and transposase technologies.

In addition to possessing competing technologies, our competitors include pharmaceutical and biotechnology companies with:

- substantially greater capital resources than ours;
- larger research and development staffs and facilities than ours; and
- greater experience in product development and in obtaining regulatory approvals and patent protection.

These organizations also compete with us to:

- attract qualified personnel;
- attract parties for acquisitions, joint ventures or other collaborations; and
- license the proprietary technologies of academic and research institutions that are competitive with our technology, which may preclude us from pursuing similar opportunities.

Accordingly, our competitors may succeed in obtaining patent protection or commercializing products before us. In addition, any products that we develop may compete with existing products or services that are well established in the marketplace.

Our gene therapy product candidates are based on a novel technology, which makes it difficult to predict the timing and costs of development and of subsequently obtaining regulatory approval. To our knowledge, no gene therapy product has been approved in the United States and only two such products have been approved in the European Union.

We have concentrated our research and development efforts on genome editing, gene therapy, gene regulation and cell therapy. The regulatory approval process for novel product candidates such as ours is unclear and may be lengthier and more expensive than the process for other, better-known or more extensively studied product candidates.

Regulatory requirements governing gene and cell therapy products have changed frequently and may continue to change in the future. The FDA has established the Office of Cellular, Tissue and Gene Therapies within its Center for Biologics Evaluation and Research, or CBER, to consolidate the review of gene therapy and related products, and has established the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER in its review. In addition, adverse developments in clinical trials of gene therapy products conducted by others may cause the FDA or other oversight bodies to change the requirements for approval of our product candidates.

These regulatory review committees and advisory groups, and any new guidelines they promulgate, may lengthen the regulatory review process, require us to perform additional preclinical studies or clinical trials, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of our current or future product candidates or lead to significant post-approval limitations or restrictions. As we advance our product candidates, we will be required to consult with these regulatory and advisory groups and comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of our product candidates. These additional processes may result in a review and approval process that is longer than we otherwise would have expected. Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to generate sufficient product revenue, and our business, financial condition, results of operations and prospects would be harmed. Even if our product candidates are approved, we expect that the FDA will require us to submit follow-up data regarding our clinical trial subjects for a number of years after approval. If this follow-up data shows negative long-term safety or efficacy outcomes for these patients, the FDA may revoke its approval or change the label of our products in a manner that could have an adverse impact on our business.

In addition, adverse developments in clinical trials of gene therapy products conducted by others may cause the FDA or other oversight bodies to change the requirements for approval of our product candidates. Although numerous companies are currently advancing gene therapy products through clinical trials, to our knowledge, only two gene therapy products, uniQure N.V.’s Glybera and GlaxoSmithKline’s Strimvelis, have received marketing authorization from the European Commission, and no gene therapy products have been approved by the FDA. As a result, it is difficult to determine how long it will take or how much it will cost to obtain regulatory approvals for our product candidates.

Adverse public perception in the field of gene therapy and genome editing may negatively impact regulatory approval of, or demand for, our potential products.

Our potential therapeutic products are delivered to patients as gene-based drugs, or gene therapy. The clinical and commercial success of our potential products will depend in part on public acceptance of the use of gene therapy and genome editing for the prevention or treatment of human diseases. Public attitudes may be influenced by claims that gene therapy or genome editing is unsafe, and, consequently, our products may not gain the acceptance of the public or the medical community. Negative public reaction to gene therapy or genome editing in general could result in greater government regulation and stricter labeling requirements of gene based products, including any of our products, and could cause a decrease in the demand for any products we may develop.

Laws or public sentiment may limit the production of genetically modified agricultural products, and these laws could reduce our partner's ability to sell such products.

Genetically modified products are currently subject to public debate and heightened regulatory scrutiny, either of which could prevent or delay production of agricultural products. We have a research license and commercial option agreement with DAS through which we provide DAS with access to our proprietary ZFP technology and the exclusive right to use our ZFP technology to modify the genomes or alter the nucleic acid or protein expression of plant cells, plants or plant cell cultures. The field-testing, production and marketing of genetically modified plants and plant products are subject to federal, state, local and foreign governmental regulation. Regulatory agencies administering existing or future regulations or legislation may not allow production and marketing of our genetically modified products in a timely manner or under technically or commercially feasible conditions. In addition, regulatory action or private litigation could result in expenses, delays or other impediments to our product development programs or the commercialization of resulting products.

The FDA currently applies the same regulatory standards to foods developed through genetic engineering as those applied to foods developed through traditional plant breeding. Genetically engineered food products, however, will be subject to pre-market review if these products raise safety questions or are deemed to be food additives. Governmental authorities could also, for social or other purposes, limit the use of genetically modified products created with our gene regulation technology.

Even if the regulatory approval for genetically modified products developed under our agreement with DAS was obtained, our success will also depend on public acceptance of the use of genetically modified products including drugs, plants, and plant products. Claims that genetically modified products are unsafe for consumption or pose a danger to the environment may influence public attitudes. Our genetically modified products may not gain public acceptance. The subject of genetically modified organisms has received negative publicity in the United States and particularly in Europe, and such publicity has aroused public debate. The adverse publicity in Europe could lead to greater regulation and trade restrictions on imports of genetically altered products. Similar adverse public reaction or sentiment in the United States to genetic research and its resulting products could result in greater domestic regulation and could decrease the demand for our technology and products.

Risks Relating to our Finances

****We have incurred significant operating losses since inception and anticipate that we will incur continued losses for the foreseeable future.***

We have generated operating losses since we began operations in 1995. Our net losses for the years ended December 31, 2016, 2015 and 2014 were $71.7 million, $40.7 million and $26.4 million, respectively. The extent of our future losses and the timing of profitability are uncertain, and we expect to incur losses for the foreseeable future. We have been engaged in developing our ZFP technology since inception, which has and will continue to require significant research and development expenditures. To date, we have generated our funding from issuance of equity securities, revenues derived from collaboration agreements, other strategic partnerships in non-therapeutic applications of our technology, federal government research grants and grants awarded by research foundations. As of June 30, 2017, we had an accumulated deficit of $470.0 million. Since our initial public offering in 2000, we have generated an aggregate of approximately $418.6 million in gross proceeds from the sale of our equity securities. We expect to continue to incur additional operating losses for the next several years as we continue to advance our product candidates. If the time required to generate significant product revenues and achieve profitability is longer than we currently anticipate or if we are unable to generate liquidity through equity financing or other sources of funding, we may be forced to curtail or suspend our operations.

On an ongoing basis, management evaluates its estimates related to the recognition of revenue from upfront license payments from our collaborators and strategic partners. These estimates are based on various factors that could affect the recognition of revenue.

We may be unable to raise additional capital, which would harm our ability to develop our technology and products.

We have incurred significant operating losses and negative operating cash flows since inception and have not achieved profitability. We expect capital outlays and operating expenditures to increase over the next several years as we expand our infrastructure and research and product development activities. While we believe our financial resources will be adequate to sustain our current operations for at least the next twelve months, we may need to seek additional sources of capital through equity or debt financing. In addition, as we focus our efforts on proprietary human therapeutics, we will need to seek FDA approval of potential products, a process that could cost in excess of hundreds of millions of dollars per product. Furthermore, we may experience difficulties in accessing the capital market due to external factors beyond our control such as volatility in the equity markets for emerging biotechnology companies and general economic and market conditions both in the United States and abroad. We cannot be certain that we will be able to obtain financing on terms acceptable to us, or at all. Our failure to obtain adequate and timely funding will materially adversely affect our business and our ability to develop our technology and products candidates. Furthermore, any sales of additional equity securities may result in dilution to our stockholders and any debt financing may include business and financial covenants that restricts our operations.

We are at the development phase of operations and may not succeed or become profitable.

We began operations in 1995 and are in the early phases of product development, and we have incurred significant losses since inception. To date, our revenues have been generated from collaboration agreements, other collaborations in non-therapeutic applications of our technology, federal government research grants and grants awarded by research foundations. Our focus on higher-value therapeutic product development and related collaboration requires us to incur substantial expenses associated with product development. In addition, the preclinical or clinical failure of any single product may have a significant effect on the actual or perceived value of our stock. Our business is subject to all of the risks inherent in the development of a new technology, which includes the need to:

- attract and retain qualified scientific and technical staff and management, particularly scientific staff with expertise to develop our early-stage technology into therapeutic products;
- obtain sufficient capital to support the expense of developing our technology platform and developing, testing and commercializing products;
- develop a market for our products; and
- successfully transition from a company with a research focus to a company capable of supporting commercial activities.

Risks Relating to our Relationships with Collaborators and Strategic Partners

If conflicts arise between us and our collaborators or strategic partners, these parties may act in their self-interest, which may limit our ability to implement our strategies.

If conflicts arise between our corporate or academic collaborators or strategic partners and us, the other party may act in its self-interest, which may limit our ability to implement our strategies. Some of our academic collaborators and strategic partners are conducting multiple product development efforts within each area that is the subject of the collaboration with us. Our collaborators or strategic partners may develop, either alone or with others, products in related fields that are competitive with the products or potential products that are the subject of these collaborations. Competing products, either developed by the collaborators or strategic partners or to which the collaborators or strategic partners have rights, may result in the withdrawal of partner support for our product candidates.

Some of our collaborators or strategic partners could also become our competitors in the future. Our collaborators or strategic partners could develop competing products, preclude us from entering into collaborations with their competitors, fail to obtain timely regulatory approvals, terminate their agreements with us prematurely, or fail to devote sufficient resources to the development and commercialization of products. Any of these developments could harm our product development efforts.

****Our collaborators and strategic partners may control aspects of our clinical trials, which could result in delays and other obstacles in the commercialization of our proposed products.***

We depend on third-party collaborators and strategic partners to design and conduct our clinical trials for some of our therapeutic programs. As a result, we may not be able to conduct these programs in the manner or on the time schedule we currently contemplate, which may negatively impact our business operations. In addition, if any of these collaborators or strategic partners withdraws support for our programs or proposed products or otherwise impair their development; our business could be negatively affected.

We have a collaborative agreement with Shire, pursuant to which we are engaging in a joint program with Shire to research, develop and commercialize human therapeutics and diagnostics for Huntington's disease and other monogenic diseases based on our ZFP technology. Under this agreement, we will provide certain target feasibility activities and upon Shire's request, certain research activities under a research plan, agreed upon by both companies. Shire is responsible for clinical development and commercialization of products generated from the research program from and after the acceptance of an IND or CTA for the product.

We also have a collaborative agreement with Bioverativ for the clinical development and commercialization of therapeutics based on our ZFP technology for hemoglobinopathies, including beta-thalassemia and SCD. Under the agreement, we are responsible for all discovery, research and development activities through the first human clinical trial for the first product candidate developed for the treatment of beta-thalassemia. In the SCD program, both parties are responsible for research and development activities through the submission of an IND.

In addition, under our agreement with Pfizer, we will be responsible for conducting the Phase 1/2 clinical trial and certain manufacturing activities for SB-525, while Pfizer will be responsible for subsequent worldwide clinical development, manufacturing, marketing and commercialization of SB-525. We may also collaborate in the research and development of AAV-based gene therapy products for hemophilia.

Under our agreements with Bioverativ and Pfizer, they have control and broad discretion over all or certain aspects of the clinical development and commercialization of any product developed under the agreement, and we will have little, if any, influence on how these programs will be conducted. Our lack of control over the clinical development in our agreement with Bioverativ and Pfizer could cause delays or other difficulties in the development and commercialization of our product candidates, which may prevent us from completing the intended IND filings in a timely fashion and receiving any milestone, royalty payments and other benefits under the agreement. In addition, under their respective agreements, Bioverativ, Pfizer and Shire have certain rights to terminate the agreements by providing us with advance notices, therefore, the actual milestone payments that we may receive under these agreements may be lower than the full amounts stated above.

Our collaborators or strategic partners may decide to adopt alternative technologies or may be unable to develop commercially viable products with our technology, which would negatively impact our revenues and our strategy to develop these products.

Our collaborators or strategic partners may adopt alternative technologies, which could decrease the marketability of ZFP technology. Additionally, because many of our collaborators or strategic partners are likely to be working on more than one development project, they could choose to shift their resources to projects other than those they are working on with us. If they do so, this would delay our ability to test our technology and would delay or terminate the development of potential products based on our ZFP technology. Further, our collaborators and strategic partners may elect not to develop products arising out of our collaborative and strategic partnering arrangements or to devote sufficient resources to the development, manufacturing, marketing or sale of these products. If they terminate the collaborative relationship with us, we will be required to seek the support of other partners or collaborators. We may not have sufficient resources and expertise to develop these programs by ourselves, and we may not be able to identify a suitable partner or negotiate a favorable collaboration agreement to allow us to continue the development of these programs. If any of these events occur, we may not be able to develop our technologies or commercialize our products.

If we do not successfully commercialize ZFP-based research reagents, ZFP-modified cell lines for commercial protein production, or ZFP-engineered transgenic animals under our license agreement with Sigma-Aldrich Corporation or ZFP-based agricultural products with Dow AgroSciences, or if Sigma-Aldrich Corporation or Dow AgroSciences terminates our agreements, our ability to generate revenue under these license agreements may be limited.

In July 2007, we entered into a license agreement with Sigma to collaborate on the application and development of ZFP-based products for use in the laboratory research reagents markets. The agreement provides Sigma with access to our ZFP technology and the exclusive right to use our ZFP technology to develop and commercialize products for use as research reagents and to offer services in related research fields. Under the agreement, Sigma has exclusive rights to develop and distribute ZFP-modified cell lines for commercial production of protein pharmaceuticals and, certain ZFP-engineered transgenic animals for commercial applications. In addition, under our license agreement with DAS relating to plant agriculture, DAS has the exclusive right to develop agricultural products using our ZFP technology in plant cells, plants or plant cell cultures. Both Sigma and DAS have the right to sublicense our technology in their respective areas. In addition to upfront payments, we may also receive additional license fees, shared sublicensing revenues, royalty payments and milestone payments depending on the success of the development and commercialization of the licensed products and services covered under both agreements. The commercial milestones and royalties are typically based upon net sales of licensed products.

We cannot be certain that we or our collaboration partners will succeed in the development of commercially viable products in these fields of use, and there is no guarantee that we or our collaboration partners will achieve the milestones set forth in the respective license agreements. To the extent we or our collaboration partners do not succeed in developing and commercializing products or if we or our collaboration partners fail to achieve such milestones, our revenues and benefits under the license agreements will be limited. In addition, the respective license agreements may be terminated by Sigma and DAS at any time by providing us with a 90-day notice. In the event Sigma or DAS decides to terminate the license agreements, our ability to generate revenue under such license agreements will cease.

Our collaborations with outside scientists may be subject to change, which could limit our access to their expertise.

We work with scientific advisors and collaborators at academic research institutions. These scientists are not our employees and may have other commitments that would limit their availability to us. Although our scientific advisors generally agree not to do competing work, if a conflict of interest between their work for us and their work for another entity arises, we may lose their services. Although our scientific advisors and academic collaborators sign agreements not to disclose our confidential information, it is possible that some of our valuable proprietary knowledge may become publicly known through them, which may cause competitive harm to our business.

Risks Relating to our Intellectual Property and Business Operation

****Because it is difficult and costly to protect our proprietary rights, and third parties may have filed patent applications that are similar to ours, we cannot guarantee the proprietary protection of our technologies and products.***

Our commercial success will depend in part on obtaining patent protection of our technology and successfully defending any of our patents that may be challenged. The patent positions of pharmaceutical and biotechnology companies can be highly uncertain and can involve complex legal and factual questions. No consistent policy regarding the breadth of claims allowed in biotechnology patents has emerged to date. Accordingly, we cannot predict the breadth of claims allowed in patents we own or license that a third party may receive.

We are a party to various license agreements that give us rights under specified patents and patent applications. Our current licenses, as our future licenses frequently will, contain performance obligations. If we fail to meet those obligations, the licenses could be terminated. If we are unable to continue to license these technologies on commercially reasonable terms, or at all, we may be forced to delay or terminate aspects of our product development and research activities.

With respect to our present and any future sublicenses, since our rights derive from those granted to our sublicensor, we are subject to the risk that our sublicensor may fail to perform its obligations under the master license or fail to inform us of useful improvements in, or additions to, the underlying intellectual property owned by the original licensor.

We are unable to exercise the same degree of control over intellectual property that we license from third parties as we exercise over our internally developed intellectual property. We do not control the prosecution of certain of the patent applications that we license from third parties; therefore, the patent applications may not be prosecuted as we desire or in a timely manner.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- we or our licensors were the first to make the inventions covered by each of our pending patent applications;
- we or our licensors were the first to file patent applications for these inventions;
- the patents of others will not have an adverse effect on our ability to do business;
- others will not independently develop similar or alternative technologies or reverse engineer any of our products, processes or technologies;
- any of our pending patent applications will result in issued patents;
- any patents issued or licensed to us or our collaborators or strategic partners will provide a basis for commercially viable products or will provide us with any competitive advantages;
- any patents issued or licensed to us will not be challenged and invalidated by third parties; or
- we will develop additional products, processes or technologies that are patentable.

Others have filed and in the future are likely to file patent applications that are similar to ours. We are aware that there are academic groups and other companies that are attempting to develop technology that is based on the use of zinc finger, TALE, CRISPR/Cas and other DNA-binding proteins, and that these groups and companies have filed patent applications. Several patents have been issued, although we have no current plans to use the associated inventions. If these or other patents issue, it is possible that the holder of any patent or patents granted on these applications may bring an infringement action against our collaborators, strategic partners, or us claiming damages and seeking to enjoin commercial activities relating to the affected products and processes. The costs of litigating the claim could be substantial. Moreover, we cannot predict whether we, our collaborators, or strategic partners would prevail in any actions. In addition, if the relevant patent claims were upheld as valid and enforceable and our products or processes were found to infringe the patent or patents, we or our collaborators could be prevented from making, using, or selling the relevant product or process unless we or our collaborators could obtain a license or were able to design around the patent claims. We can give no assurance that such a license would be available to us and our collaborators on commercially reasonable terms, or at all, or that we would be able to successfully design around the relevant patent claims. There may be significant litigation in the genomics industry regarding patent and other intellectual property rights, which could subject us to litigation. If we become involved in litigation, it could consume a substantial portion of our managerial and financial resources.

We rely on trade secrets to protect technology where we believe patent protection is not appropriate or obtainable. Trade secrets, however, are difficult to protect. While we require employees, academic collaborators and consultants to enter into confidentiality agreements, we may not be able to adequately protect our trade secrets or other proprietary information or enforce these confidentiality agreements.

Our collaborators, strategic partners, and scientific advisors have rights to publish data and information in which we may have rights. If we cannot maintain the confidentiality of our technology and other confidential information in connection with our collaborations and strategic partnerships, then we may not be able to receive patent protection or protect our proprietary information.

If we use biological and hazardous materials in a manner that causes injury or violates laws, we may be liable for damages.

Our research and development activities involve the controlled use of potentially harmful biological materials as well as hazardous materials, chemicals, and various radioactive compounds typically employed in molecular and cellular biology. We routinely use cells in culture and gene delivery vectors, and we employ small amounts of radioisotopes in trace experiments. Although we maintain up-to-date licensing and training programs, we cannot completely eliminate the risk of accidental contamination or injury from the use, storage, handling, or disposal of these materials. In the event of contamination or injury, we could be held liable for damages that result, and any liability could exceed our resources. We currently carry insurance covering certain claims arising from our use of these materials. However, if we are unable to maintain our insurance coverage at a reasonable cost and with adequate coverage, our insurance may not cover any liability that may arise. We are subject to federal, state, and local laws and regulations governing the use, storage, handling, and disposal of these materials and specified waste products. To date, we have not experienced significant costs in complying with regulations regarding the use of these materials.

Failure to attract, retain, and motivate skilled personnel and cultivate key academic collaborations will delay our product development programs and our research and development efforts.

Our success depends on our continued ability to attract, retain, and motivate highly qualified management and scientific personnel and our ability to develop and maintain important relationships with leading research and academic institutions and scientists. Competition for skilled and qualified personnel and academic and other research collaborations is intense. If we lose the services of personnel with the necessary skills, including the members of our senior management team, it could significantly impede the achievement of our research and development objectives. If we fail to negotiate additional acceptable collaborations with academic and other research institutions and scientists, or if our existing collaborations are unsuccessful, our development programs may be delayed or may not succeed.

Risks Relating to our Common Stock and Corporate Organization

****Our stock price has been volatile and may continue to be volatile, which could result in substantial losses for investors.***

Our stock price has been volatile and may continue to be volatile, which could cause stockholders to incur substantial losses. An active public market for our common stock may not be sustained, and the market price of our common stock may continue to be highly volatile. The market price of our common stock has fluctuated significantly in response to various factors, some of which are beyond our control, including but not limited to the following:

- announcements by us or collaborators providing updates on the progress or development status of product candidates;
- data from clinical trials;

- initiation or termination of clinical trials;
- changes in market valuations of similar companies;
- overall market and economic conditions, including the equity markets for emerging biotechnology companies;
- deviations in our results of operations from the guidance given by us;
- announcements by us or our competitors of new or enhanced products, technologies or services or significant contracts, acquisitions, strategic relationships, joint ventures or capital commitments;
- announcement of changes in business and operations by our collaborators and partners, or changes in our existing collaboration agreements;
- regulatory developments;
- changes, by one or more of our security analysts, in recommendations, ratings or coverage of our stock.
- additions or departures of key personnel;
- future sales of our common stock or other securities by us, management or directors, liquidation of institutional funds that comprised large holdings of our stock; and
- decreases in our cash balances.

Our stock price is also influenced by public perception of gene therapy and government regulation of potential products.

Reports of serious adverse events in a retroviral gene transfer trial for infants with X-linked severe combined immunodeficiency (X-linked SCID) in France and subsequent FDA actions putting related trials on hold in the United States had a significant negative impact on the public perception and stock price of certain companies involved in gene therapy. Stock prices of these companies declined whether or not the specific company was involved with retroviral gene transfer for the treatment of infants with X-linked SCID, or whether the specific company's clinical trials were placed on hold in connection with these events. Other potential adverse events in the field of gene therapy may occur in the future that could result in greater governmental regulation of our potential products and potential regulatory delays relating to the testing or approval of our potential products. These external events may have a negative impact on public perception of our business, which could cause our stock price to decline.

****We may be subject to claims for rescission and may be subject to other penalties for shares sold under the ATM Agreement.***

We are a party to an Amended and Restated At-the-Market Offering Program Sales Agreement, or the ATM Agreement, pursuant to which we may sell, from time to time, an aggregate of $75 million of our common stock through the investment bank acting as our sales agent under the ATM Agreement. The shares under the original At-the-Market Offering Program Sales Agreement entered into with the sales agent in December 2016 were initially to be sold pursuant to a shelf registration statement on Form S-3 that initially became effective in February 2014, or the prior registration statement. In March 2017, we sold an aggregate of $3.8 million of our common stock, and received net proceeds of $3.4 million, under the ATM Agreement at an average price per share of $4.39, and at the times of those sales, we believed that the prior registration statement was then effective. However, subsequent to those sales, we were advised that the prior registration statement had in fact expired prior to the time of the sales in March 2017 ATM sales. Because our registration statement had in fact expired prior to the time of such sales, we may be deemed to have violated Section 5 of the Securities Act, which requires registration of public offerings of securities. Consequently, we may be subject to claims for rescission by purchasers who purchased shares of our common stock under the ATM Agreement in March 2017. Under Section 12(a)(1) of the Securities Act, a purchaser of security in a transaction made in violation of Section 5 of the Securities Act may obtain recovery of the consideration paid in connection with its purchase, plus statutory interest, or, if it had already sold the shares, recover damages resulting from its purchase. While we believe it is unlikely that a successful claim will be asserted against us by any purchasers who purchased shares of our common stock under the ATM Agreement in March 2017, we cannot guarantee that no such legal claims will be asserted against us by any purchasers. In addition, we could become subject to enforcement actions and/or penalties and fines by federal authorities, and we are unable to predict the likelihood of any such enforcement actions being brought against us, or the amount of any such potential penalties or fines.

Anti-takeover provisions in our certificate of incorporation and Delaware law could make an acquisition of our company more difficult and could prevent attempts by our stockholders to remove or replace current management.

Anti-takeover provisions of Delaware law and in our certificate of incorporation and our bylaws may discourage, delay or prevent a change in control of our company, even if a change in control would be beneficial to our stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. In particular, under our certificate of incorporation our board of directors may issue up to 5,000,000 shares of preferred stock with rights and privileges that might be senior to our common stock, without the consent of the holders of the common stock. Moreover, without any further vote or action on the part of the stockholders, the board of directors would have the authority to determine the price, rights, preferences, privileges, and restrictions of the preferred stock. This preferred stock, if it is ever issued, may have preference over, and harm the rights of, the holders of common stock. Although the issuance of this preferred stock would provide us with flexibility in connection with possible acquisitions and other corporate purposes, this issuance may make it more difficult for a third party to acquire a majority of our outstanding voting stock.

Similarly, our authorized but unissued common stock is available for future issuance without stockholder approval.

In addition, our bylaws:

- state that stockholders may not act by written consent but only at a stockholders' meeting;
- establish advance notice requirements for nominations for election to the board of directors or proposing matters that can be acted upon at stockholders' meetings; and
- prohibit stockholders from calling a special meeting of stockholders.

We are also subject to Section 203 of the Delaware General Corporation Law, which provides, subject to certain exceptions, that if a person acquires 15% of our voting stock, the person is an "interested stockholder" and may not engage in "business combinations" with us for a period of three years from the time the person acquired 15% or more or our voting stock. The application of Section 203 may, in some circumstances, deter or prevent a change in control of our company even when such change may be beneficial to our stockholders.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFEY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

(a) Exhibits:

3.1	Composite copy of Seventh Amended and Restated Certificate of Incorporation of Sangamo Therapeutics, Inc., as amended.
3.2	Composite copy of Second Amended and Restated Bylaws of Sangamo Therapeutics, Inc., as amended.
10.1(ǂ)	Collaboration and License Agreement between Sangamo Therapeutics, Inc. and Pfizer, Inc., dated May 10, 2017.
31.1	Rule 13a — 14(a) Certification by President and Chief Executive Officer
31.2	Rule 13a — 14(a) Certification by Principal Financial and Accounting Officer
32.1*	Certification Pursuant to 18 U.S.C. Section 1350
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* The certifications attached as Exhibit 32.1 accompany this Quarterly Report on Form 10-Q pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed “filed” by the Registrant for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

(ǂ) Confidential treatment has been requested for certain information contained in this document.

SIGNATURES

Pursuant to the requirements of the Securities and Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Dated: August 9, 2017

SANGAMO THERAPEUTICS, INC.

/s/ KATHY Y. YI

Kathy Y. Yi
Senior Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

EXHIBIT INDEX

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Exhibit 3.1

SEVENTH AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
SANGAMO BIOSCIENCES, INC.
a Delaware Corporation

Sangamo BioSciences, Inc., a corporation organized and existing under the General Corporation law of the State of Delaware (the "Corporation") does hereby certify:

FIRST: The name of the Corporation is Sangamo BioSciences, Inc.

SECOND: The Original Certificate of Incorporation of said Corporation was filed with the Secretary of State of Delaware on June 22, 1995.

THIRD: The Second Amended and Restated Certificate of Incorporation of said Corporation was filed with the Secretary of State of Delaware on June 21, 1996. The Third Amended and Restated Certificate of Incorporation of said Corporation was filed with the Secretary of State of Delaware on October 31, 1997. The Fourth Amended and Restated Certificate of Incorporation of said Corporation was filed with the Secretary of State of Delaware on December 11, 1997. The Fifth Amended and Restated Certificate of Incorporation of said Corporation was filed with the Secretary of State of Delaware on August 19, 1999. The Certificate of Amendment of the Fifth Amended and Restated Certificate of Incorporation was filed with the Secretary of State of Delaware on November 4, 1999. The Sixth Amended and Restated Certificate of said Corporation was filed with the Secretary of State of Delaware on March 28, 2000.

FOURTH: The Seventh Amended and Restated Certificate of Incorporation of said Corporation has been duly adopted in accordance with Sections 245 and 242 of the General Corporation Law of the State of Delaware by the directors and stockholders of the Corporation.

FIFTH: The Sixth Amended and Restated Certificate of Incorporation of said corporation shall be amended and restated to read in full as follows:

ARTICLE I

Name

The name of the Corporation is Sangamo BioSciences, Inc.

ARTICLE II

Registered Office

The address of the registered office of the Corporation in the State of Delaware is Corporation Trust Center, 1209 Orange Street, City of Wilmington, County of New Castle, Delaware 19801 and the name of the registered agent at that address is The Corporation Trust Company.

ARTICLE III

Powers/Term

The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law. The Corporation is to have perpetual existence.

ARTICLE IV

Capital Stock

A. Classes of Stock. The total number of shares of stock which the Corporation shall have authority to issue is eighty-five million (85,000,000), consisting of five million (5,000,000) shares of Preferred Stock, par value $0.01 per share (the "Preferred Stock"), and eighty million (80,000,000) shares of Common Stock, par value $0.01 per share (the "Common Stock").

B. Preferred Stock. The Preferred Stock may be issued from time to time in one or more series. The Board of Directors is hereby authorized to provide for the issuance of shares of Preferred Stock in one or more series and, by filing a certificate pursuant to the applicable law of the State of Delaware (the "Preferred Stock Designation"), to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each such series and the qualifications, limitations and restrictions thereof. The authority of the Board of Directors with respect to each series shall include, but not be limited to, determination of the following:

(1) The designation of the series, which may be by distinguishing number, letter or title.

(2) The number of shares of the series, which number the Board of Directors may thereafter (except where otherwise provided in the Preferred Stock Designation) increase or decrease (but not below the number of shares thereof then outstanding).

(3) The amounts payable on, and the preferences, if any, of shares of the series in respect of dividends, and whether such dividends, if any, shall be cumulative or noncumulative.

(4) Dates at which dividends, if any, shall be payable.

(5) The redemption rights and price or prices, if any, for shares of the series.

(6) The terms and amount of any sinking funds provided for the purchase or redemption of shares of the series.

(7) The amounts payable on, and the preferences, if any, of shares of the series in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation.

(8) Whether the shares of the series shall be convertible into or exchangeable for shares of any other class or series, or any other security, of the Corporation or any other corporation, and, if so, the specification of such other class or series or such other security, the conversion or exchange price or prices or rate or rates, any adjustments thereof, the date or dates at which such shares shall be convertible or exchangeable and all other terms and conditions upon which such conversion or change may be made.

(9) Restrictions on the issuance of shares of the same series or of any other class or series.

(10) The voting rights, if any, of the holders of shares of the series.

C. Common Stock; Voting. The Common Stock shall be subject to the express terms of the Preferred Stock and any series thereof. Except as may otherwise be provided in this Certificate of Incorporation, in a Preferred Stock Designation or by applicable law, the holders of shares of Common Stock shall be entitled to one vote for each such share upon all questions presented to the stockholders, the Common Stock shall have the exclusive right to vote for the election of directors and for all other purposes, and holders of Preferred Stock shall not be entitled to vote at or receive notice of any meeting of stockholders.

The number of shares of authorized Common Stock may be increased or decreased (but not below the number then outstanding) by the affirmative vote of the holders of a majority in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon, voting together as a single class notwithstanding the provisions of Section 242(b)(2) of the General Corporation Law of the State of Delaware.

The Corporation shall be entitled to treat the person in whose name any share of its stock is registered as the owner thereof for all purposes and shall not be bound to recognize any equitable or other claim to, or interest in, such share on the part of any other person whether or not the Corporation shall have notice thereof, except as expressly provided by applicable law.

ARTICLE V

Directors

The number of directors of the Corporation shall be determined by resolution of the Board of Directors.

Elections of directors not be by written ballot unless the Bylaws of the Corporation shall so provide. Advance notice of stockholders nominations for the election of directors and of any other business to be brought before any meeting of the stockholders shall be given in the manner provided in the Bylaws of this Corporation.

At each annual meeting of stockholders, directors of the Corporation shall be elected to hold office until the expiration of the term for which they are elected, or until their successors have been duly elected and qualified; except that if any such election shall not be so held, such election shall take place at stockholder's meeting called and held in accordance with General Corporation Law of the State of Delaware.

Vacancies occurring on the Board of Directors for any reason may be filled by vote of a majority of the remaining members of the Board of Directors, even if less than a quorum, at any meeting of the Board of Directors. A person so elected by the Board of Directors to fill a vacancy shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been duly elected and qualified. A director or the entire Board of Directors may be removed from office at any time only for cause by the affirmative vote of the holders of a majority of the outstanding shares of voting stock of the Corporation entitled to vote in an election of directors.

ARTICLE VI

Stockholder Meetings

Meetings of stockholders may be held within or without the State of Delaware, as the bylaws may provide. Special meetings of stockholders for any purpose may be called only by the Board of Directors. The books of the Corporation may be kept (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the bylaws of the Corporation. The stockholders of the Corporation may not take any action by written consent in lieu of a meeting.

ARTICLE VII

Limitation of Directors' Liability

A director of the Corporation shall not be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the General Corporation Law of the State of Delaware as the same exists or may hereafter be amended. Any amendment, modification or repeal of the foregoing sentence shall not adversely affect any right or protection of a director of the Corporation hereunder in respect of any act or omission

occurring prior to the time of such amendment, modification or repeal. If the General Corporation Law of the State of Delaware is amended after approval by the stockholders of this ARTICLE VII to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director shall be eliminated or limited to the fullest extent permitted by the General Corporation Law of the State of Delaware, as so amended.

ARTICLE VIII

Indemnification

A. Right to Indemnification. The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (a "Covered Person") who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "proceeding"), by reason of the fact that he is or was or has agreed to become, or a person for whom he is the legal representative, is or was or has agreed to become a director of the Corporation or, while a director of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such Covered Person. Notwithstanding the preceding sentence, except as otherwise provided in this Article VIII, the Corporation shall be required to indemnify a Covered Person in connection with a proceeding (or part thereof) commenced by such Covered Person only if the commencement of such proceeding (or part thereof) by the Covered Person was authorized by the Board of Directors of the Corporation. The rights to indemnification provided herein shall continue with respect to a Covered Person notwithstanding that such Covered Person ceases to be a director, officer or other employee or agent of the Corporation.

B. Prepayment of Expenses. The Corporation shall pay the expenses (including attorneys' fees) incurred by a Covered Person in defending any proceeding in advance of its final disposition, provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the proceeding shall be made only upon receipt of an undertaking by the Covered Person to repay all amounts advanced if it should be ultimately determined that the Covered Person is not entitled to be indemnified under this Article VIII or otherwise.

C. Claims. If a claim for indemnification or advancement of expenses under this Article VIII is not paid in full within thirty days after a written claim therefor by the Covered Person has been received by the Corporation, the Covered Person may file suit to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim. In any such action the Corporation shall have the burden of proving that the Covered Person is not entitled to the requested indemnification or advancement of expenses under applicable law.

D. Nonexclusivity of Rights. The rights conferred on any Covered Person by this Article VIII shall not be exclusive of any other rights which such Covered Person may have or hereafter acquire under any statute, provision of the certificate of incorporation, the bylaws, agreement, vote of stockholders or disinterested directors or otherwise. The Corporation may, to the extent authorized from time to time by its Board of Directors, grant indemnification rights to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those provided herein.

E. Other Sources. The Corporation's obligation, if any, to indemnify or to advance expenses to any Covered person who was or is serving at its request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, enterprise or nonprofit entity shall be reduced by any amount such Covered Person may collect as indemnification or advancement of expenses from such other corporation, partnership, joint venture, trust, enterprise or non-profit enterprise. The Corporation shall have the power to purchase and maintain insurance on behalf of any person who is or was a director officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against and incurred by such person in any such capacity, or arising out of such person's status as such.

F. Amendment or Repeal. Any repeal or modification of the foregoing provisions of this Article VIII shall not adversely affect any right or protection hereunder of any Covered Person in respect of any act or omission occurring prior to the time of such repeal or modification.

G. Other Indemnification and Prepayment of Expenses. This Article VIII shall not limit the right to the Corporation to the extent and in the manner permitted by law, to indemnify and to advance expenses to persons other than Covered Persons when and as authorized by appropriate corporate action.

ARTICLE IX

Amendment of Bylaws

In furtherance of and not in limitation of powers conferred by statute, the Board of Directors of the Corporation is expressly authorized to adopt, repeal, alter, amend and rescind the bylaws of the Corporation by vote of a majority of the Board of Directors.

ARTICLE X

Amendment of Certificate of Incorporation

The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Amended and Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute and this Amended and Restated Certificate of Incorporation, and all rights conferred upon stockholders herein are granted subject to this reservation.

* * *

FOURTH: That said amendments were duly adopted in accordance with the provisions of Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been signed this 10th day of April, 2000.

/s/ Edward O. Lanphier II
Edward O. Lanphier II
President, Chief Executive Officer
and Chief Financial Officer

CERTIFICATE OF AMENDMENT

OF

SEVENTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF

SANGAMO BIOSCIENCES, INC.

Sangamo BioSciences, Inc., a Delaware corporation (the "Corporation"), hereby certifies as follows:

1. That the Corporation's Board of Directors has duly adopted the following resolution to amend the Corporation's Seventh Amended and Restated Certificate of Incorporation, as amended, pursuant to Section 242 of the General Corporation Law of the State of Delaware:

RESOLVED, that the Seventh Amended and Restated Certificate of Incorporation of the Corporation, as amended shall be amended as follows:

Article IV, Paragraph A, shall be amended and restated as follows:

A. Classes of Stock. The total number of shares of stock which the Corporation shall have authority to issue is one hundred sixty-five million (165,000,000), consisting of five million (5,000,000) shares of Preferred Stock, par value $0.01 per share (the "Preferred Stock"), and one hundred sixty million (160,000,000) shares of Common Stock, par value $0.01 per share (the "Common Stock").

The Corporation has caused this Certificate of Amendment of the Seventh Amended and Restated Certificate of Incorporation to be signed by the Corporation's President, its authorized officer, on this 21st day of April, 2014.

SANGAMO BIOSCIENCES, INC.

By: /s/ EDWARD O. LANPHIER III
Name: Edward O. Lanphier III
Title: President and Chief Executive Officer

CERTIFICATE OF AMENDMENT

OF

SEVENTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF

SANGAMO BIOSCIENCES, INC.

Sangamo BioSciences, Inc., a Delaware corporation (the "Corporation"), hereby certifies as follows:

1. The Board of Directors of the Corporation duly adopted the following resolutions in accordance with the provisions of the General Corporation Law of the State of Delaware, Section 242:

RESOLVED, that Article V, Paragraph 4 of the Seventh Amended and Restated Certificate of Incorporation of the Corporation, as amended from time to time, is hereby amended and restated in its entirety as follows:

> Vacancies occurring on the Board of Directors for any reason may be filled by vote of a majority of the remaining members of the Board of Directors, even if less than a quorum, at any meeting of the Board of Directors. A person so elected by the Board of Directors to fill a vacancy shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been duly elected and qualified.

2. This amendment to the Seventh Amended and Restated Certificate of Incorporation of the Corporation has been duly adopted by the holders of a majority of the issued and outstanding shares of the Corporation's common stock in accordance with the provisions of the General Corporation Law of the State of Delaware, Section 242, such holders being all of the holders of the Corporation's capital stock entitled to vote thereon.

The Corporation has caused this Certificate of Amendment of the Seventh Amended and Restated Certificate of Incorporation to be signed by the Corporation's President, its authorized officer, on this 14th day of June, 2016.

SANGAMO BIOSCIENCES, INC.

By: /s/ Sandy Macrae
Name: Sandy Macrae
Title: President and Chief Executive Officer

THIRD CERTIFICATE OF AMENDMENT
OF THE
SEVENTH AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
SANGAMO BIOSCIENCES, INC.

SANGAMO BIOSCIENCES, INC., a Delaware corporation (the "Corporation"), hereby certifies as follows:

1. The Seventh Amended and Restated Certificate of Incorporation of the Corporation, as amended by the Certificate of Amendment filed with the Secretary of State of the State of Delaware on April 22, 2014 and the Certificate of Amendment filed with the Secretary of State of the State of Delaware on June 14, 2016, is hereby amended by amending and restating the FIRST article thereof in its entirety as follows:

FIRST: The name of the Corporation is Sangamo Therapeutics, Inc.

2. The foregoing amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

[Remainder of Page Left Intentionally Blank]

IN WITNESS WHEREOF, the Corporation has caused this Third Certificate of Amendment to be executed by its duly authorized officer on the date set forth below.

SANGAMO BIOSCIENCES, INC.

By: /s/ Alexander “Sandy” Macrae
Name: Alexander “Sandy” Macrae
Office: President and Chief Executive Officer

Date: January 5, 2017

Exhibit 3.2

SECOND AMENDED AND RESTATED BY-LAWS OF SANGAMO BIOSCIENCES, INC.

ARTICLE I

Certificate of Incorporation and Bylaws

Section 1. These By-Laws are subject to the Certificate of Incorporation of the Corporation, as amended to date. In these By-Laws, references to law, the Certificate of Incorporation and By-Laws mean the law, the provisions of the Certificate of Incorporation and the By-Laws as from time to time in effect.

ARTICLE II

Offices

Section 1. The registered office of the Corporation in the State of Delaware shall be Corporation Trust Center, 1209 Orange Street, City of Wilmington, County of New Castle, Delaware 19801 and the name of the registered agent at that address is The Corporation Trust Company.

Section 2. The Corporation may also have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

ARTICLE III

Meetings of Stockholders

Section 1. All meetings of the stockholders for the election of directors shall be held at such place as may be fixed from time to time by the Board of Directors, or at such other place either within or without the State of Delaware as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting. Meetings of stockholders for any other purpose may be held at such time and place, within or without the State of Delaware, as shall be stated in the notice of the meeting or in a duly executed waiver of notice thereof.

Section 2. The annual meeting of stockholders shall be held at such date and time as shall be designated from time to time by the Board of Directors. At the annual meeting, directors shall be elected and any other business properly brought before the meeting pursuant to these Bylaws may be transacted.

Section 3. Written notice of the annual meeting stating the place, date and hour of the meeting shall be given to each stockholder entitled to vote at such meeting not fewer than ten (10) nor more than sixty (60) days before the date of the meeting.

Section 4. The officer who has charge of the stock ledger of the Corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, for a period of at least ten (10) days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

Section 5. Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by statute or by the Certificate of Incorporation, may be called only by the Chairman of the Board or President and shall be called by the Chairman of the Board, the President or Secretary at the request in writing of a majority of the Board of Directors.

Section 6. Written notice of a special meeting stating the place, date and hour of the meeting, and the purpose or purposes for which the meeting is called, shall be given not fewer than ten (10) nor more than sixty (60) days before the date of the meeting, to each stockholder entitled to vote at such meeting. If mailed, such notice shall be deemed to be given when deposited in the U.S. mail, postage prepaid, directed to the stockholder at the stockholder’s address as it appears on the records of the Corporation.

Section 7. Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

Section 8. The holders of majority in number of the total outstanding stock issued and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by statute or by the Certificate of Incorporation. When a quorum is present at any meeting, the vote of the holders of a majority of the stock having voting power present in person or represented by proxy shall decide any question (other than the election of directors) brought before such meeting, unless the question is one upon which by express provision of the statutes or of the Certificate of Incorporation, a different vote is required, in which case such express provision shall govern and control the decision of such question. At any meeting of stockholders for the election of one or more directors at which a quorum is present, each director shall be elected by the vote of a majority of the votes cast with respect to the director, provided that if, as of a date that is ten (10) days in advance of the date on which the Corporation files its definitive proxy statement with the Securities and Exchange Commission (regardless of whether thereafter revised or supplemented), the number of nominees for director exceeds the number of directors to be elected, the directors shall be elected by the vote of a plurality of the votes cast by the stockholders entitled to vote at the election. If an incumbent director then serving on the Board of Directors does not receive the required majority, the director shall promptly tender his or her resignation to the Board of Directors. Within ninety (90) days after the date of the certification of the election results, the Nominating and Corporate Governance Committee or other committee that may be designated by the Board of

Directors will make a recommendation to the Board of Directors as to whether to accept or reject the resignation, or whether other action should be taken. The Board of Directors will act on the tendered resignation, taking into account such committee's recommendation. The director who tenders his or her resignation will not participate in the recommendation of the Governance and Compliance Committee or the decision of the Board of Directors with respect to his or her resignation. If such incumbent director's resignation is not accepted by the Board of Directors, the Board of Director shall publicly disclose its decision regarding the tendered resignation and the rationale behind the decision. If a director's resignation is accepted by the Board of Directors pursuant to this Section 8, or if a nominee for director is not elected and the nominee is not an incumbent director, then the Board of Directors may fill the resulting vacancy pursuant to the provisions of Article IV, Section 2 of these By-Laws or may decrease the size of the Board of Directors pursuant to the provisions of Article IV, Section 1 of these By-Laws.

Section 9. Unless otherwise provided in the Certificate of Incorporation, each stockholder shall at every meeting of the stockholders be entitled to one vote in person or by proxy for each share of the capital stock having voting power held by such stockholder, but no proxy shall be voted on after three years from its date, unless the proxy provides for a longer period.

Section 10. Unless otherwise provided in the Certificate of Incorporation, a meeting of stockholders may be adjourned only by the Chairman of the Board from time to time whether or not a quorum is present at such meeting, without notice other than announcement at the meeting. No notice of the time and place of an adjourned meeting need be given except as required by law. At such adjourned meeting at which a quorum shall be present or represented, any business may be transacted which might have been transacted at the meeting as originally notified. If the adjournment is for more than thirty days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. The Board of Directors may postpone any meeting of stockholders or cancel any special meeting of stockholders by public announcement or disclosure prior to the time scheduled for the meeting.

Section 11. Intentionally omitted.

Section 12. No business shall be transacted at a meeting of stockholders except in accordance with the following procedures:

(a) At an annual meeting of stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (i) brought before the meeting by the Corporation and specified in the notice of meeting given by or at the direction of the Board of Directors, (ii) brought before the meeting by or at the direction of the Board of Directors (or any duly authorized committee thereof) or (iii) otherwise properly brought before the meeting by any stockholder of the Corporation who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such business is proposed, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time the notice provided for in this Section 12 is delivered to the Secretary of the Corporation and at the time of the meeting, (B) is entitled to vote at the meeting and (C) has complied with the notice procedures set forth in this Section 12. Except for proposals properly made in accordance with Rule 14a-8 under the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (as so amended and inclusive of such rules and regulations, the "Exchange Act"), and included in the notice of meeting given by or at the direction

of the Board of Directors, the foregoing clause (iii) shall be the exclusive means for a stockholder to propose business to be brought before an annual meeting of the stockholders. Stockholders shall not be permitted to propose business to be brought before a special meeting of the stockholders, and the only matters that may be brought before a special meeting are the matters specified in the notice of meeting given by or at the direction of the person calling the meeting pursuant to Sections 5 and 6 of this Article III. Stockholders seeking to nominate persons for election to the Board of Directors must comply with Section 13, and this Section 12 shall not be applicable to nominations except as expressly provided in Section 13.

(b) Without qualification, for business to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of paragraph (a) of this Section 12, the stockholder must have given timely notice thereof in writing and in proper form to the Secretary of the Corporation and provide any updates or supplements to such notice at the times and in the forms required by this Section 12, and such business must otherwise be a proper matter for stockholder action as determined by the Board of Directors. To be timely, a stockholder's notice must be delivered to the Secretary at the principal executive offices of the Corporation not less than ninety (90) nor more than one hundred twenty (120) days prior to the anniversary date of the immediately preceding annual meeting of stockholders; provided, however, that in the event that the annual meeting is called for on a date that is not within thirty (30) days before or after such anniversary date, notice by the stockholder to be timely must be so received not later than the close of business on the tenth (10th) day following the day on which the first public announcement of the date of the annual meeting was made or the notice of the meeting was mailed, whichever first occurs. In no event shall the public announcement of an adjournment or postponement of an annual meeting of stockholders commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above. The stockholder's notice shall contain, at a minimum, the information set forth in paragraph (c) of this Section 12. For purposes of these Bylaws, "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act.

(c) Contents of Stockholder's Notice. Any proper stockholder's notice required by this Section 12 shall set forth:

(i) For each item of business that the stockholder proposes for consideration before the annual meeting, (A) a reasonably detailed description of the business desired to be brought before the annual stockholder meeting, (B) the text of the proposal or business (including the text on any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws of the Corporation, the language of the proposed amendment), (C) the reasons for conducting such business at the annual meeting and (D) a reasonably detailed description of any material interest in such business of such stockholder, beneficial owner, if any, on whose behalf the proposal is made, and any affiliate or associate (each within the meaning of Rule 12b-2 under the Exchange Act for purposes of these Bylaws) of such stockholder or beneficial owner (each, a "Proposing Person"), including all agreements, arrangements and understandings (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other person or entity (including their names) in connection with the proposal of such business by such stockholder;

(ii) As to each Proposing Person, (A) the name and address of such Proposing Person, as they appear on the Corporation's books, (B) the class or series and number of shares of capital stock of the Corporation which are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the Exchange Act) by such Proposing Person, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future; and

(iii) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the Corporation, including due to the fact that the value of such derivative, swap or other transactions are determined by reference to the price, value or volatility of any shares of any class or series of the Corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit from any increase in the price or value of shares of any class or series of the Corporation ("Synthetic Equity Interests"), which Synthetic Equity Interests shall be disclosed without regard to whether (x) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (y) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (z) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to vote any shares of any class or series of the Corporation, (C) any agreement, arrangement, understanding or relationship, including any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the shares of any class or series of the Corporation, or which provides, directly or indirectly, the opportunity to profit from any decrease in the price or value of the shares of any class or series of the Corporation ("Short Interests"), (D) any rights to dividends on the shares of any class or series of the Corporation beneficially owned by such Proposing Person that are separated or separate from the underlying shares of the Corporation; (E) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any increase or decrease in the price or value of shares of any class or series of the Corporation, or any Synthetic Equity Interests or Short Interests, if any, and (F) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (A) through (F) are referred to as "Disclosable Interests"); *provided, however*, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these Bylaws on behalf of a beneficial owner.

(d) A stockholder providing notice of business proposed to be brought before an annual meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 12 shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting, if practicable (or, if not practicable, on the first practicable date prior to), or any adjournment or postponement thereof (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(e) Notwithstanding anything in these Bylaws to the contrary, no business shall be conducted at an annual meeting except in accordance with this Section 12. Except as otherwise provided by law, the presiding officer of the meeting shall have the power and duty, if the facts warrant, to (i) determine whether any business proposed to be brought before an annual meeting was proposed in accordance with the procedures set forth in this Section 12 and (ii) if he or she determines that any proposed business is not in compliance with this Section 12 (including whether the stockholder or beneficial owner, if any, on whose behalf the proposal is made solicits (or is part of a group which solicits), declare that such proposed business not properly brought before the meeting shall not be transacted.

(f) This Section 12 is expressly intended to apply to any business proposed to be brought before an annual meeting of stockholders other than any proposal made pursuant to Rule 14a-8 under the Exchange Act. Notwithstanding the foregoing provisions of this Section 12, a Proposing Person shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth in this Section 12. Nothing in this Section 12 shall be deemed to affect any rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

Section 13. Only persons who are nominated in accordance with the following procedures shall be eligible for election as directors of the Corporation except as may be otherwise provided in the Certificate of Incorporation.

(a) (i) Nominations of persons for election to the Board of Directors may be made at an annual meeting or at a special•meeting of stockholders (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) only (A) by or at the direction of the Board of Directors (or any duly authorized committee thereof) or the Chairman of the Board or (B) by any stockholder of the Corporation who (x) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such nomination is proposed to be made, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time the notice provided for in this Section 13 is delivered to the Secretary of the Corporation and at the time of the meeting, (y) is entitled to vote at the meeting and (z) has complied with the notice procedures set forth in this Section 13 as to such nomination. The foregoing clause (a)(i)(B) shall be the exclusive means for a stockholder to make any nomination of a person or persons for election to the Board of Directors at an annual meeting or special meeting.

(ii) Without qualification, for a stockholder to make any nomination of a person or persons to the Board of Directors at an annual meeting or at a special meeting of stockholders (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting), such nominations must be properly brought before such meeting by a stockholder pursuant to clause (B) of paragraph (a)(i) of this Section 13, and the stockholder must have given timely notice thereof in writing and in proper form to the Secretary of the Corporation and provide any updates or supplements to such notice at the times and in the forms required by this Section 13. To be timely for nominations of persons for election to the Board of Directors at an annual meeting, a stockholder's notice must be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not less than ninety (90) nor more than one hundred twenty (120) days prior to the anniversary date of the immediately preceding annual meeting of stockholders; provided, however, that in the event that the annual meeting is called for on a date that is not within thirty (30) days before or after such anniversary date of the annual meeting, notice by the stockholder in order to be timely must be so received not later than the close of business on the tenth (10th) day following the day on which the first public announcement of the date of the annual meeting was made or the notice of the meeting was mailed, whichever first occurs. To be timely for nominations of persons for election to the Board of Directors at a special meeting (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting), a stockholder's notice must be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not less than ninety (90) nor more than one hundred twenty (120) days prior to such special meeting; provided, however, that in the event that the special meeting is called for on a date that is less than ninety (90) days prior to the special meeting, notice by the stockholder in order to be timely must be so received not later than the close of business on the tenth (10th) day following the day on which the first public announcement of the date of the special meeting was made or the notice of the special meeting was mailed, whichever first occurs. In no event shall the public announcement of an adjournment or postponement of an annual meeting or special meeting, as applicable, of stockholders commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above. The stockholder's notice shall contain, at a minimum, the information set forth in paragraph (b) of this Section 13.

(iii) Notwithstanding anything in the second sentence of paragraph (a)(ii) of this Section 13 to the contrary, in the event that the number of directors to be elected to the Board of Directors of the Corporation at an annual meeting is increased and there is no public announcement by the Corporation naming all of the nominees for director or specifying the size of the increased Board of Directors at least one hundred (100) days prior to the first anniversary of the preceding year's annual meeting, a stockholder's notice required by this Section 13 shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the tenth (10th) day following the day on which such public announcement is first made by the Corporation.

(b) Contents of Stockholder's Notice. Any proper stockholder's notice required by this Section 13 shall set forth:

(i) As to each stockholder providing the notice of the nomination proposed to be made at the meeting, beneficial owner or beneficial owners, if different, on whose behalf the

notice of the nomination proposed to be made at the meeting is made, and any affiliate or associate of such stockholder or beneficial owner (each, a "Nominating Person"), the name, age, nationality, business address and residence address of such Nominating Person, (ii) the principal occupation and employment of such Nominating Person and (iii) the class or series and number of shares of capital stock of the Corporation which are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the Exchange Act) by such Nominating Person;

(ii) As to any Nominating Person, any Disclosable Interests (as defined in Section 12(c)(iii), except that for purposes of this Section 13(b) the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 12(c)(iii) and the disclosure in clause (F) of Section 12(c)(iii) shall be made with respect to the election of directors at the meeting);

(iii) As to each person whom a Nominating Person proposes to nominate for election as a director, (A) all information with respect to such proposed nominee that would be required to be set forth in a stockholder's notice pursuant to this Section 13(b) if such proposed nominee were a Nominating Person, (B) all information relating to such proposed nominee that is required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Section 14(a) under the Exchange Act (including such proposed nominee's written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (C) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among any Nominating Person, on the one hand, and each proposed nominee, and his or her respective affiliates and associates, on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Item 404 under Regulation S-K if such Nominating Person were the "registrant" for purposes of such rule and the proposed nominee were a director or executive officer of such registrant, and (D) a completed and signed questionnaire, representation and agreement as provided in this Section 13(e); and

(iv) The Corporation may require any proposed nominee to furnish such other information (A) as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation in accordance with the Corporation's corporate governance guidelines or (B) that could be material to a reasonable stockholder's understanding of the independence or lack of independence of such proposed nominee.

(c) A stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to Section 13(b) shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting, if practicable (or, if not practicable, on the first practicable date prior to such meeting), or any adjournment or postponement thereof (in the case of

the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(d) Notwithstanding anything in these Bylaws to the contrary, only such persons who are nominated in accordance with the procedures set forth in this Section 13 shall be eligible to be elected at an annual or special meeting of stockholders of the Corporation to serve as directors. Except as otherwise provided by law, the presiding officer of the meeting shall have the power and duty to (i) determine whether a nomination to be brought before an annual or special meeting was made in accordance with the procedures set forth in this Section 13 and (ii) if he or she determines that any proposed nomination is not in compliance with this Section 13 (including whether the stockholder or beneficial owner, if any, on whose behalf the nomination is made solicits (or is part of a group which solicits), or fails to so solicit (as the case may be), proxies in support of such stockholder's nominee in compliance with such stockholder's representation as required by paragraph (e) of this Section 13, declare that such defective nomination shall be disregarded.

(e) To be eligible to be a nominee for election as a director of the Corporation, if so requested by the Corporation, the proposed nominee must deliver (in accordance with the time periods prescribed for delivery of notice under this Section 13) to the Secretary at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the Secretary upon written request) and a written representation and agreement (in the form provided by the Secretary upon written request) that such proposed nominee (i) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (B) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law, (ii) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed to the Corporation and (iii) in such proposed nominee's individual capacity and on behalf of the stockholder (or the beneficial owner, if different) on whose behalf the nomination is made, would be in compliance, if elected as a director of the Corporation, and will comply with applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(f) In addition to the requirements of this Section 13 with respect to any nomination proposed to be made at a meeting, each Nominating Person shall comply with all applicable requirements of the Exchange Act with respect to any such nominations.

Section 14. Meetings of stockholders shall be presided over by the Chairman of the Board, the President or by another chair designated by the Board of Directors. The date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting shall be determined by the chair of the meeting and announced at the meeting. The Board of Directors may adopt by resolution such rules and regulations for the conduct of the meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board of Directors, the chair of any meeting of stockholders shall have the exclusive right and authority to prescribe such rules, regulations and procedures and to do all

such acts as, in the judgment of such chair, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board of Directors or prescribed by the chair of the meeting, may include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders of record of the Corporation, their duly authorized and constituted proxies or such other persons as the chair of the meeting shall determine; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof, and (v) limitations on the time allotted to questions or comments by participants. Unless and to the extent determined by the Board of Directors or the chair of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure

Section 15. Any previously scheduled annual or special meeting of the stockholders may be postponed, and any previously scheduled annual or special meeting of the stockholders called by the Board of Directors may be canceled, by resolution of the Board of Directors upon public notice given prior to the time previously scheduled for such meeting of stockholders. The Board of Directors in its discretion may set a new record date for the postponed meeting.

Section 16. The Board of Directors by resolution may, and to the extent required by law, shall appoint one or more inspectors, which inspector or inspectors may include individuals who serve the Corporation in other capacities, including, without limitation, as officers, employees, agents or representatives of the Corporation, to act at the meeting and make a written report thereof. One or more persons may be designated as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate has been appointed to act, or if all inspectors or alternates who have been appointed are unable to act, at a meeting of stockholders, the chairman of the meeting may, and to the extent required by law, shall appoint one or more inspectors to act at the meeting. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors shall have the duties prescribed by the Delaware General Corporation Law (DGCL).

ARTICLE IV

Directors

Section 1. The number of directors which shall constitute the whole Board shall be determined by resolution of the Board of Directors or by the stockholders at the annual meeting of the stockholders, except as provided in Section 2 of this Article. Directors need not be stockholders of the Corporation.

Section 2. Vacancies and newly created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election at which such director’s class is to be elected and until their successors are duly elected and shall qualify, unless sooner displaced. If there are no directors in office, then an election of directors may be held in the manner provided by statute. If, at the time of filling any vacancy or any newly created directorship, the directors then in office shall constitute less than a majority of the whole Board (as constituted immediately prior to any such increase), the Court

of Chancery may, upon application of any stockholder or stockholders holding at least ten percent (10%) of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office.

Section 3. The business of the Corporation shall be managed by or under the direction of its Board of Directors which may exercise all such powers of the Corporation and do all such lawful acts and things as are not by statute or by the Certificate of Incorporation or by these By-Laws directed or required to be exercised or done by the stockholders.

Meetings of the Board of Directors

Section 4. The Board of Directors of the Corporation may hold meetings, both regular and special, either within or without the State of Delaware.

Section 5. Regular meetings of the Board of Directors may be held without notice at such time and at such place as shall from time to time be determined by the Board. Members of the Board of Directors may participate in regular or special meetings by means of conference telephone or similar communications equipment by which all persons participating in the meeting can hear each other. Such participation shall constitute presence in person.

Section 6. Special meetings of the Board may be called by the chairman of the board or president on two (2) days' notice to each director by mail or twenty-four (24) hours notice to each director either personally or by facsimile, telephone or other electronic transmission; special meetings shall be called by the president or secretary or chairman of the board in like manner and on like notice on the written request of two directors unless the Board consists of only one director, in which case special meetings shall be called by the chairman of the board or the president or secretary in like manner and on like notice on the written request of the sole director.

Section 7. At all meetings of the Board a majority of the directors fixed by Section 1 shall constitute a quorum for the transaction of business and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically provided by statute or by the Certificate of Incorporation. If a quorum shall not be present at any meeting of the Board of Directors, the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

Section 8. Unless otherwise restricted by the Certificate of Incorporation of these By-Laws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board or committee, as the case may be, consent thereto in writing, and the writing or writings are filed with the minutes of proceedings of the Board or committee.

Section 9. Unless otherwise restricted by the Certificate of Incorporation or these By-Laws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or any committee, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

Committees of Directors

Section 10. The Board of Directors may, by resolution passed by a majority of the whole Board, designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee.

In the absence of disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

Any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to amending the Certificate of Incorporation, adopting an agreement of merger or consolidation, recommending to the stockholders the sale, lease or exchange of all or substantially all of the Corporation's property and assets, recommending to the stockholders a dissolution of the Corporation or a revocation of a dissolution, or amending the By-Laws of the Corporation; and, unless the resolution or the Certificate of Incorporation expressly so provide, no such committee shall have the power or authority to declare a dividend or to authorize the issuance of stock. Such committee or committees shall have such name or names as may be determined from time to time by resolution adopted by the Board of Directors.

Unless otherwise provided in the Certificate of Incorporation, in these By-Laws or in the resolution of the Board of Directors designating a committee, a committee may create one or more subcommittees, each subcommittee to consist of one or more members of the committee, and delegate to the subcommittee any or all of the powers and authority of the committee, except otherwise prohibited by statute.

Section 11. Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

Compensation of Directors

Section 12. Unless otherwise restricted by the Certificate of Incorporation or these By-Laws, the Board of Directors shall have the authority to fix the compensation of directors. The directors may be paid their expenses, if any, of attendance at each meeting of the Board of Director and may be paid a fixed sum for attendance at each meeting of the Board of Directors and a stated salary as director. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving compensation therefor. Members of special or standing committees may be allowed like compensation for attending committee meetings.

Removal of Directors

Section 13. Any director or the entire Board of Directors may be removed only in accordance with the provisions of the Corporation's Certificate of Incorporation.

ARTICLE V

Notices

Section 1. Whenever, under the provisions of the statutes or of the Certificate of Incorporation or of these By-Laws, notice is required to be given to any director or stockholder, it shall not be construed to mean personal notice, but such notice may be given in writing, by mail, addressed to such director or stockholder, at his address as it appears on the records of the Corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Notice to directors may also be given by facsimile or electronic transmission.

Section 2. Whenever any notice is required to be given under the provisions of the statutes or of the Certificate of Incorporation or of these By-Laws, a waiver thereof in writing, signed by the person or persons entitled to said notice, whether before or after the time stated therein, shall be deemed equivalent thereto.

Section 3. Without limiting the manner by which notice otherwise may be given effectively to stockholders pursuant to the DGCL, the certificate of incorporation or these bylaws, any notice to stockholders given by the corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. Any such consent shall be revocable by the stockholder by written notice to the corporation. Any such consent shall be deemed revoked if:

(i) the corporation is unable to deliver by electronic transmission two consecutive notices given by the corporation in accordance with such consent; and

(ii) such inability becomes known to the secretary or an assistant secretary of the corporation or to the transfer agent, or other person responsible for the giving of notice.

However, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action. Any notice given pursuant to the preceding paragraph shall be deemed given:

(i) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice;

(ii) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice;

(iii) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (A) such posting and (B) the giving of such separate notice; and

(iv) if by any other form of electronic transmission, when directed to the stockholder.

An affidavit of the secretary or an assistant secretary or of the transfer agent or other agent of the corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be *prima facie* evidence of the facts stated therein. Notice by a form of electronic transmission shall not apply with respect to Sections 164, 296, 311, 312 or 324 of the DGCL

ARTICLE VI

Officers

Section 1. The officers of the Corporation shall be chosen by the Board of Directors and shall consist of a Chief Executive Officer, Chief Financial Officer and a Secretary. The Board of Directors may elect from among its members a Chairman of the Board and a Vice Chairman of the Board. The Board of Directors may also choose a Treasurer, one or more Vice

Presidents, Assistant Secretaries and Assistant Treasurers. Any number of offices may be held by the same person, unless the Certificate of Incorporation or these By-Laws otherwise provide.

Section 2. Reserved.

Section 3. The Board of Directors may appoint such other officers and agents as it shall deem necessary who shall hold their offices for such terms and shall exercise such powers and perform such duties as shall be determined from time to time by the Board.

Section 4. The officers of the Corporation shall be entitled to receive such compensation for their services as shall from time to time be determined by the Board of Directors.

Section 5. The officers of the Corporation shall hold office until their successors are chosen and qualify. Any officer elected or appointed by the Board of Directors may be removed at any time by the affirmative vote of a majority of the Board of Directors. Any vacancy occurring in any office of the Corporation shall be filled by the Board of Directors.

The Chairman of the Board and Vice Chairman of the Board

Section 6. The Board of Directors may appoint a Chairman of the Board and may, but is not obligated to, designate the Chairman of the Board as chief executive officer. If the Board of Directors appoints a Chairman of the Board, he shall perform such duties and possess such powers as are assigned to him by the Board of Directors. Unless otherwise provided by the Board of Directors, the Chairman of the Board shall preside at all meetings of the stockholders and at all meetings of the Board of Directors. If the Board of Directors appoints a Vice Chairman of the Board, he shall, in the absence or disability of the Chairman of the Board, perform the duties and exercise the powers of the Chairman of the Board and shall perform such other duties and possess such other powers as may from time to time be vested in him by the Board of Directors.

Chief Executive Officer or President

Section 7. The Chief Executive Officer or President shall conduct general and active management of the business of the Corporation and shall see that all orders and resolutions of the Board are carried into effect, subject, however, to the right of the directors to delegate any specific powers, except such as may be by statute exclusively conferred on the Chief Executive Officer or President, to any other officer or officers of the Corporation. The Chief Executive Officer or President shall have the general power and duties of supervision and management usually vested in the office of President of a corporation. In the absence of the Chairman and Vice Chairman of the Board, the Chief Executive Officer or President shall preside at all meetings of the stockholders and the Board of Directors.

The Vice-Presidents

Section 8. In the absence of the President or in the event of his inability or refusal to act, the Vice President, if any, (or in the event there be more than one Vice President, the Vice Presidents in the order designated by the directors, or in the absence of any designation, then in the order of their election) shall perform the duties of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. The Vice Presidents shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

The Secretary and Assistant Secretary

Section 9. The Secretary shall attend all meetings of the Board of Directors and all meetings of the stockholders and record all the proceedings of the meetings of the Corporation and of the Board of Directors in a book to be kept for that purpose and shall perform like duties for the standing committees when required. Such individual shall give, or cause to be given, notice of all meetings of the stockholders and special meetings of the Board of Directors, and shall perform such other duties as may be prescribed by the Board of Directors or president, under whose supervision such individual shall be. Such individual shall have custody of the corporate seal of the Corporation and he, or an Assistant Secretary, shall have authority to affix the same to any instrument requiring it and when so affixed, it may be attested by his signature or by the signature of such assistant secretary. The Board of Directors may give general authority to any other officer to affix the seal of the Corporation and to attest the affixing by his signature.

Section 10. The Assistant Secretary, or if there be more than one, the Assistant Secretaries in the order determined by the Board of Directors (or if there be no such determination, then in the order of their election) shall, in the absence of the Secretary or in the event of his inability or refusal to act, perform the duties and exercise the powers of the secretary and shall perform such other duties and have such other powers as the Board of directors may from time to time prescribe.

The Chief Financial Officer, Treasurer and Assistant Treasurers

Section 11. The Board of Directors shall have the authority to appoint a Chief Financial Officer who may also be the Treasurer or a Chief Financial Officer and a Treasurer and any Assistant Treasurers which the Board of Directors deems necessary to the operation of the Company. The Chief Financial Officer shall have the custody of the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the Corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the Corporation in such depositories as may be designated by the Board of Directors. The Treasurer, if there be one separate from the Chief Financial Officer, shall have the duties prescribed by the Board of Directors.

Section 12. The Chief Financial Officer shall disburse the funds of the Corporation as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the President and the Board of Directors, at its regular meetings, or when the Board of Directors so requires, an account of all his transactions as Chief Financial Officer and of the financial condition of the Corporation.

ARTICLE VII

Certificate of Stock

Section 1. The shares of the Corporation shall be represented by certificates, provided that the shares of stock of the Corporation may also be represented by uncertificated shares evidenced by a book-entry system maintained by the registrar of such stock. Every holder of stock in the Corporation shall be entitled to have a certificate, signed by, or in the name of the Corporation by, the Chairman or Vice Chairman of the Board of Directors, or the President or a Vice President and the Treasurer or an Assistant Treasurer, or the Secretary or an Assistant Secretary of the Corporation, certifying the number of shares owned by him in the Corporation.

If the Corporation shall be authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualification, limitations or restrictions or such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate which the Corporation shall issue to represent such class or series of stock, provided that, except as otherwise provided in Section 202 of the General Corporation Law of Delaware, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate which the Corporation shall issue to represent such class or series of stock, a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

Section 2. Any of or all the signatures on the certificate may be facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such individual were such officer, transfer agent or registrar at the date of issue.

Lost Certificates

Section 3. The Board of Directors may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the Corporation alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen or destroyed. When authorizing such issue of a new certificate or certificates, the Board of Directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed certificate or certificates, or his legal representative, to advertise the same in such manner as it shall require and/or give the Corporation a bond in such sum as it may direct as indemnity against any claim that may be made against the Corporation with respect to the certificate alleged to have been lost, stolen or destroyed.

Transfer of Stock

Section 4. Upon surrender to the Corporation or the transfer agent of the Corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the Corporation to issue a new

certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

Fixing Record Date

Section 5. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting unless expressly disallowed by the Certificate of Incorporation, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, which shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other action. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

If no record date is fixed, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held; and the record date for determining stockholders for any other purpose (except corporate action to be taken by consent in writing) shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto

Registered Stockholders

Section 6. The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and to hold liable for calls and assessments a person registered on its books as the owner of shares and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof except as otherwise provided by the laws of Delaware.

ARTICLE VIII

Forum for Certain Actions

Unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the corporation or the Corporation’s stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL, or (iv) any action asserting a claim governed by the internal affairs doctrine shall be a state or federal court located within the state of Delaware, in all cases subject to the court’s having personal jurisdiction over the indispensable parties named as defendants. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of these By-Laws.

ARTICLE IX

General Provisions

Section 1. Dividends upon the capital stock of the Corporation, subject to the provisions of the Certificate of Incorporation, if any, may be declared by the Board of Directors at any regular or special meeting, pursuant to law. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the Certificate of Incorporation and pursuant to applicable law.

Section 2. Before payment of any dividend, there may be set aside out of any funds of the Corporation available for dividends such sum or sums as the directors from time to time, in their absolute discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the Corporation, or for such other purposes as the directors shall think conducive to the interest of the Corporation, and the directors may modify or abolish any such reserve in the manner in which it was created.

Section 3. The fiscal year of the Corporation shall end on December 31, unless otherwise fixed by resolution of the Board of Directors.

Section 4. The corporate seal shall be in such form as shall be approved by the Board of Directors.

ARTICLE X

Amendments

These By-Laws may be repealed, altered, amended or rescinded by the stockholders of the Corporation by vote of not less than a majority of the outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors (considered for this purpose as one class) cast at a meeting of the stockholders called for that purpose (provided that notice of such proposed repeal, alteration, amendment or rescission is included in the notice of such meeting). In addition, in accordance with the Corporation’s Certificate of Incorporation, the Board of Directors may repeal, alter, amend or rescind these By-Laws by vote of a majority of the Board of Directors.

AMENDMENT NO. 1 TO SECOND AMENDED AND RESTATED BYLAWS
OF
SANGAMO BIOSCIENCES, INC.

Article IV, Section 13 of the Second Amended and Restated Bylaws of Sangamo Biosciences, Inc. (the "Corporation") shall be amended and restated in its entirety as follows:

"Any and all of the directors may be removed from office at any time, with or without cause, if such removal is approved by the affirmative vote of the holders of at least a majority of the voting power of the issued and outstanding shares of capital stock of the Corporation then entitled to vote in the election of directors."

The Corporation has caused this Amendment No. 1 to be signed by the Corporation's President, its authorized officer, on this 14th day of June, 2016.

SANGAMO BIOSCIENCES, INC.

By: /s/ Alexander (Sandy) Macrae
Name: Alexander (Sandy) Macrae
Title: President and Chief Executive Officer

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit 10.1

COLLABORATION AND LICENSE AGREEMENT

by and between

Sangamo Therapeutics, Inc.

and

Pfizer Inc.

May 10, 2017

COLLABORATION AND LICENSE AGREEMENT

This **Collaboration and License Agreement** (this "**Agreement**") is made as of May 10, 2017 (the "**Effective Date**"), by and between **Sangamo Therapeutics, Inc.**, a Delaware corporation having an office at 501 Canal Blvd., Suite A100, Richmond, CA 94804 ("**Sangamo**"), and **Pfizer Inc.**, a Delaware corporation having an office at 235 East 42nd Street, New York, NY 10017 ("**Pfizer**"). Pfizer and Sangamo are referred to in this Agreement individually as a "**Party**" and collectively as the "**Parties**".

RECITALS

WHEREAS, Pfizer is a global biopharmaceutical company engaged in the research, development, manufacturing and commercialization of biopharmaceutical products for the treatment of human diseases or conditions, including therapies for patients with rare diseases.

WHEREAS, Sangamo is a clinical stage biopharmaceutical company focused on the research, development and commercialization of genome editing / gene therapy products targeting monogenic diseases with unmet medical needs.

WHEREAS, Sangamo is developing SB-525, a product for treating Hemophilia A, that uses Sangamo's proprietary gene therapy platform to deliver a functional copy of the B-domain deleted human Factor VIII gene to liver cells to enable constitutive episomal expression of the Factor VIII protein.

WHEREAS, Pfizer and Sangamo desire to establish a collaboration for the research and development and, if successful, commercialization of SB-525 and related products, all under the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants contained herein, the receipt and sufficiency of which are hereby acknowledged, Pfizer and Sangamo hereby agree as follows:

ARTICLE 1
DEFINITIONS

Unless the context otherwise requires, the terms in this Agreement with initial letters capitalized shall have the meanings set forth below:

1.1 "**AAV**" means adeno-associated virus.

1.2 "**Additional Product**" means any gene therapy product (other than a Product as described in clauses (a) or (c) of Section 1.72) that (a) [*], and (b) [*].

1.3 **"Adverse Event"** means any untoward medical occurrence in a patient or clinical investigation subject administered any Product, or administered any placebo or medical device in connection with the commercial use of or clinical study of a Product, including occurrences that do

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

not necessarily have a causal relationship with such Product, placebo or medical device; provided that such meaning may be further clarified by the Parties in the Pharmacovigilance Agreement.

1.4 "**Affiliate**" means, with respect to any Person, any other Person that controls, is controlled by, or is under common control with, such Person. For purposes of this Agreement, a Person shall be deemed to control another Person if it owns or controls, directly or indirectly, at least fifty percent (50%) of the equity securities (or other ownership interests, by contract or otherwise) of such other Person entitled to vote in the election of directors (or, in the case that such other Person is not a corporation, for the election of the corresponding managing authority), or otherwise has the power to direct the management and policies of such other Person; *provided*, *however*, that where an entity owns a majority of the voting power necessary to elect a majority of the board of directors or other governing board of another entity, but is restricted from electing such majority by contract or otherwise, such entity will not be considered to be in control of such other entity until such time as such restrictions are no longer in effect. The Parties acknowledge that in the case of certain entities organized under the laws of certain countries outside the United States, the maximum percentage ownership permitted by law for a foreign investor may be less than fifty percent (50%), and that in such case such lower percentage will be substituted in the preceding sentence, provided that such foreign investor has the power to direct the management and policies of such entity.

1.5 "**Bankruptcy Event**" means the occurrence of any of the following: (a) the institution of any bankruptcy, receivership, insolvency, reorganization or other similar proceedings by or against a Party under any bankruptcy, insolvency, or other similar law now or hereinafter in effect, including any section or chapter of the United States Bankruptcy Code, as amended or under any similar laws or statutes of the United States or any state thereof (the "**Bankruptcy Code**"), where in the case of involuntary proceedings such proceedings have not been dismissed or discharged within ninety (90) days after they are instituted, (b) the filing of an insolvency proceeding or making of an assignment for the benefit of creditors, (c) appointment of a receiver for all or substantially all of a Party's assets or (d) any corporate action taken by the board of directors of a Party in furtherance of any of the foregoing actions.

1.6 "**Binding Obligation**" means, with respect to a Party: (a) any oral or written agreement or arrangement between such Party and an Affiliate of such Party or a Third Party that binds or affects such Party's operations or property, including any assignment, license agreement, loan agreement, guaranty, or financing agreement, (b) the provisions of such Party's charter, bylaws or other organizational documents or (c) any order, writ, injunction, decree or judgment of any court or Governmental Authority entered against such Party or by which any of such Party's operations or property are bound.

1.7 "**Biosimilar Product**" means, with respect to a Product that is being sold in a country or regulatory jurisdiction in the Territory (the "**Reference Product**"), any biopharmaceutical product sold by a Third Party (other than a Third Party acting on behalf of or in concert with Pfizer or any Pfizer Affiliate or Sublicensee, or that purchased such product in a chain of distribution that included Pfizer or any of its Affiliates or Sublicensees) in such country or regulatory jurisdiction in the Territory that (i) [*] the Reference Product, and (ii) through reference to the BLA of the Reference Product, is eligible for and has achieved Marketing Approval (with all

references in such definition to Product to be deemed references to such biopharmaceutical product) in such country or regulatory jurisdiction pursuant to an abbreviated follow-on biological approval pathway established by the Regulatory Authority in such country or regulatory jurisdiction pursuant to the applicable Law, or otherwise is approved for marketing and sale in such country or regulatory jurisdiction by an abridged procedure in reliance, in whole or in part, on the BLA of the Reference Product, including any such biopharmaceutical product that (a) with respect to such biopharmaceutical product in the United States, has been approved or licensed as a biosimilar or interchangeable product by FDA pursuant to Section 351(k) of the Public Health Service Act (42 U.S.C. §262(k)), as may be amended, or any subsequent or superseding law, statute or regulation, (b) with respect to such biopharmaceutical product subject to the regulatory jurisdiction of the EMA, has been approved as a similar biological medicine product by EMA as described in CHMP/437/04, issued 30 October 2005, as may be amended, or any subsequent or superseding law, statute or regulation, or (c) with respect to such biopharmaceutical product outside the United States and in a country which is not subject to the regulatory jurisdiction of the EMA, has otherwise obtained Marketing Approval (with all references in such definition to Product to be deemed references to such biopharmaceutical product) by Regulatory Authorities in such other jurisdictions under analogous laws and regulations as those described the foregoing subsections (a) or (b).

1.8 "**BLA**" or "**Biologic License Application**" means (a) an application requesting permission from the FDA to introduce, or deliver for introduction, a biopharmaceutical product into interstate commerce, or (b) any similar application or submission for Marketing Approval of a biopharmaceutical product filed with a Regulatory Authority in a country or group of countries.

1.9 "**Business Day**" means a day other than a Saturday, Sunday or a bank or other public holiday in California or New York.

1.10 **"Calendar Quarter**" means a period of three consecutive calendar months ending on March 31, June 30, September 30 or December 31.

1.11 "**Calendar Year**" means any twelve (12) month period beginning on January 1 and ending on the first December 31 thereafter.

1.12 "**Change of Control**" means, with respect to a Party, (a) a merger, reorganization, combination or consolidation of such Party with a Third Party that results in holders of beneficial ownership (other than by virtue of obtaining irrevocable proxies) of the voting securities or other voting interests of such Party (or, if applicable, the ultimate parent of such Party) immediately prior to such merger, reorganization, combination or consolidation ceasing to hold beneficial ownership of at least fifty percent (50%) of the combined voting power of the surviving entity or the parent of the surviving entity immediately after such merger, reorganization, combination or consolidation, (b) a transaction or series of related transactions in which a Third Party, together with its Affiliates, becomes the beneficial owner (other than by virtue of obtaining irrevocable proxies) of fifty percent (50%) or more of the combined voting power of the outstanding securities or other voting interest of such Party, or (c) the sale, lease, exchange, contribution or other transfer (in one transaction or a series of related transactions) to a Third Party of all or substantially all of such Party's assets to which this Agreement relates, other than a sale or disposition of such assets to an Affiliate of such Party or (d) the approval of any plan or proposal for the liquidation or

dissolution of such Party (other than in circumstances where such Party is deemed a debtor pursuant to Section 12.2(c)).

1.13 "**Clinical Efficacy**" means [*].

1.14 "**Commercialize**" or "**Commercialization**" means to (a) market, promote, distribute, offer for sale, sell, have sold, import, have imported, export, have exported or otherwise commercialize a compound or product and (b) conduct pre-clinical, clinical and other Development activities with respect to a compound or product, in each case, after such compound or product has received Marketing Approval.

1.15 "**Commercially Reasonable Efforts**" means, with respect to the efforts to be expended by a Party with respect to any objective, those reasonable, good faith efforts to accomplish such objective as such Party would normally use to accomplish a similar objective under similar circumstances. With respect to any efforts relating to the Development, Marketing Approval, Manufacturing or Commercialization of a Product by a Party, generally or with respect to any particular country in the Territory, such Party will be deemed to have exercised "Commercially Reasonable Efforts" if such Party has exercised those efforts that would be normally used by such Party, in the relevant country, with respect to other gene therapy products or gene therapy product candidates, as applicable, (a) of similar modality controlled by such Party; or (b) (i) to which such Party has similar rights, (ii) which is of similar market potential in such country, and (iii) which is at a similar stage in its development or product life cycle, as such Product, in each case, taking into account all Relevant Factors in effect at the time such efforts are to be expended. Further, to the extent that the performance of a Party's obligations hereunder is adversely affected by the other Party's failure to perform its obligations hereunder, the impact of such performance failure will be taken into account in determining whether such Party has used its Commercially Reasonable Efforts to perform any such affected obligations.

1.16 "**Committee**" means the JSC, JCRC, JMC, JIPC or any joint subcommittee established by the JSC, as applicable.

1.17 **"Companion Diagnostic Assay"** means any *in vitro* assay that is intended to qualitatively or quantitatively measure [*]. For clarity, any such assay may, but need not necessarily, include as a component(s) thereof any component(s) of any Product.

1.18 "**Compliance**" means, with respect to a Party, the adherence by such Party and its Affiliates in all material respects to all applicable Laws and such Party's Party Specific Regulations, in each case with respect to the activities to be conducted under this Agreement.

1.19 "**Confidential Information**" of a Party means all Know-How, or other information, including proprietary information (whether or not patentable) regarding or embodying such Party's or its Representatives' technology, products, business information or objectives, including but not limited to unpublished patent applications and other non-public information and data of a financial, commercial, business, operational or technical nature (including information comprising or relating to concepts, discoveries, inventions, data, designs or formulae), that is disclosed by or on behalf of such Party or any of its Affiliates or otherwise made available to the other Party or any of its Affiliates, whether made available orally, in writing or in

electronic form, in connection with this Agreement on or after the Effective Date (or as otherwise provided in Section 16.12), but only to the extent that such Know-How or other information in written form is marked in writing as "confidential" at the time of disclosure, and such Know-How or other information disclosed orally or in non-tangible form is identified by the Disclosing Party as "confidential" at the time of disclosure. Failure to mark Confidential Information disclosed in writing hereunder as "Confidential" shall not cause the information to be considered non-confidential, with the burden on the disclosing Party to prove such information should have been known by a reasonable person with expertise on the subject matter, based on the nature of the information and the circumstances of its disclosure, to be Confidential Information, provided that the disclosing Party has otherwise made good faith efforts to clearly mark Confidential Information as such.

1.20 "**Control**" or "**Controlled**" means, with respect to any Patent Rights, Know-How or other intellectual property right, that a Party (a) owns or (b) has a license (other than a license granted to such Party under this Agreement) to such Patent Rights, Know-How or intellectual property right and, in each case, has the ability to grant to the other Party a license, sublicense or access (as applicable) to the foregoing on the terms and conditions set forth in this Agreement without violating the terms of any then-existing agreement or arrangement with any Third Party.

1.21 "**Cover**" means, with respect to a given Product and Patent Right, that a Valid Claim of such Patent Right would, absent a license thereunder or ownership thereof, be infringed by the making, use, sale, offer for sale or importation of such Product, and for purpose of determining such infringement, considering Valid Claims of pending patent applications, such claims should be considered as if they have already been issued in accordance with the definition of Valid Claim.

1.22 "**Current License**" means any agreement (i) that Sangamo or its Affiliates has entered into with a Third Party prior to the Effective Date and (ii) pursuant to which Sangamo or its Affiliates have a license from such Third Party to any Licensed Technology or Licensed Companion Diagnostic Technology as of the Execution Date.

1.23 "**Current Licensor**" means any Third Party that is a party to a Current License.

1.24 "**Develop**" or "**Development**" means all development activities for any Product, including conducting pre-clinical and clinical studies, manufacturing process development, and toxicology studies of a Product for use in clinical trials (including placebos and comparators), statistical analyses, and the preparation, filing and prosecution of any BLA for a Product, as well as all regulatory activities related to any of the foregoing, in each case prior to Marketing Approval.

1.25 "**Dollar**" means the U.S. dollar, and "$" shall be interpreted accordingly.

1.26 "**EMA**" means the European Medicines Agency or any successor entity thereto.

1.27 "**Europe**" means all countries of the European Economic Area and Switzerland.

1.28 "**European Economic Area**" means the member states of the European Union, as constituted on the Effective Date and as it may be expanded from time to time following such date, plus Norway, Iceland, and Lichtenstein, and will be deemed to include the United Kingdom whether or not the United Kingdom is a member state thereof .

1.29 "**Executive Officers**" means, for Sangamo, the Chief Executive Officer or designee, and for Pfizer, the Chief Scientific Officer of the Rare Disease Research Unit, the Global President, Rare Disease, or designee, provided in each case that such person is not a member of the JSC at the time that the applicable disagreement arises.

1.30 "**FDA**" means the United States Food and Drug Administration or any successor entity thereto.

1.31 "**Field**" means the treatment of all Indications in humans, including the use of any related diagnostics (including but not limited to companion diagnostics) in connection with such treatment.

1.32 "**Filing**" of a IND or BLA means the acceptance by a Regulatory Authority of such IND or BLA for filing and review, if applicable, or otherwise the submission of such IND or BLA.

1.33 "**First Commercial Sale**" means, with respect to a particular Product and country of the Territory, the first sale of such Product by Pfizer or an Affiliate or Sublicensee to a Third Party in an Indication in the Field in such country after such Product has been granted Marketing Approval and, where necessary, Pricing Approval by the appropriate Regulatory Authority in such country.

1.34 "**FTE**" means the equivalent of a full-time individual's work for a twelve (12) month period (consisting of a total of [*] hours per year). In the case that any individual works partially on such activities under this Agreement and partially on other work in a given year, then the full-time equivalent to be attributed to such individual's work hereunder shall be equal to the percentage of such individual's total work time in such year that such individual spent working on such activities under this Agreement.

1.35 "**FTE Rate**" means an initial rate of [*] per FTE per year. Commencing on January 1, 2018, the FTE Rate shall be changed annually on a Calendar Year basis to reflect any year-to-year percentage increase or decrease (as the case may be) in the Consumer Price Index for All Urban Consumers for the San Francisco Bay Area, as published by the U.S. Department of Labor, Bureau of Labor Statistics ("**CPI**") (based on the change in the CPI from the most recent index available as of the Effective Date to the most recent index available as of the date of the calculation of such revised FTE Rate).

1.36 "**GAAP**" means the U.S. generally accepted accounting principles, consistently applied.

1.37 "**GCP**" means the then-current good clinical practice standards for clinical trials for pharmaceuticals, as set forth in the United States Food, Drug and Cosmetic Act, as amended from time to time, or other applicable law, and such standards of good clinical practice as are

required by the Regulatory Authorities of the European Union and other organizations and Governmental Authorities in countries for which the applicable Product is intended to be developed, to the extent such standards are not less stringent than United States GCP.

1.38 "**Genome Editing**" means [*].

1.39 "**GLP**" means the then-current good laboratory practice standards promulgated or endorsed by the FDA as defined in 21 C.F.R. Part 58 or the successor thereto, or comparable regulatory standards in jurisdictions outside the United States.

1.40 "**GMP**" or "**cGMP**" means current good manufacturing practices as specified in 21 C.F.R. Parts 11, 210 and 211, ICH Guideline Q7A, or equivalent laws, rules, or regulations of an applicable Regulatory Authority at the time of manufacture.

1.41 "**Governmental Authority**" means any national, international, federal, state, provincial or local government, or political subdivision thereof, or any multinational organization or any authority, agency or commission entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power, any court or tribunal (or any department, bureau or division thereof, or any governmental arbitrator or arbitral body).

1.42 "**Government Official**", to be broadly interpreted, means (a) any elected or appointed government official (e.g., a member of a ministry of health), (b) any employee or person acting for or on behalf of a government official, Governmental Authority, or other enterprise performing a governmental function, (c) any political party, candidate for public office, officer, employee, or person acting for or on behalf of a political party or candidate for public office, and (d) any employee or person acting for or on behalf of a public international organization (e.g., the United Nations). For clarity, HCP employed by government-owned hospitals will be considered Government Officials.

1.43 "**GxP**" means, individually or collectively, as the context requires, all relevant good practice quality guidelines and regulations, encompassing such internationally-recognized standards as GMP, cGMP, GCP, GLP, Good Distribution Practice (GDP), Good Review Practice (GRP) and Good Pharmacovigilance Practice (GPvP).

1.44 "**IND**" means any investigational new drug application, clinical trial application, clinical trial exemption or similar or equivalent application or submission for approval to conduct human clinical investigations filed with or submitted to a Regulatory Authority in conformance with the requirements of such Regulatory Authority.

1.45 "**Indication**" means a separate, defined, well-categorized class of human disease syndrome or medical condition for which a separate BLA or a supplement thereto may be filed.

1.46 "**Initiate**" or "**Initiation**" means, with respect to a clinical trial of a Product, the [*] in such clinical trial.

1.47 "**Invention**" means any invention, discovery, improvement, modification, process, method, assay, design, protocol, formula, data, know-how or trade secret, whether patentable,

copyrightable or otherwise, that is discovered, generated, conceived or reduced to practice by or on behalf of a Party or its Affiliate or Sublicensee through activities conducted under this Agreement, including all rights, title and interest in and to the intellectual property rights therein and thereto.

1.48 "**Know-How**" means any information, including discoveries, improvements, modifications, processes, methods, assays, designs, protocols, formulas, data, inventions, know-how and trade secrets (in each case, patentable, copyrightable or otherwise), but excluding any Patent Rights.

1.49 "**Law**" means any federal, state, local, foreign or multinational law, statute, standard, ordinance, code, rule, regulation, resolution or promulgation, or any order by any Governmental Authority, or any license, franchise, permit or similar right granted under any of the foregoing, or any similar provision having the force or effect of law.

1.50 "**Licensed Companion Diagnostic Technology**" means all Know-How and Patent Rights that are Controlled by Sangamo or its Affiliates as of the Effective Date or during the Term, including Sangamo's interest in Joint Inventions and Joint Patents, that are necessary or useful for the development, manufacture, use, sale, offer for sale, importation or commercialization of Companion Diagnostic Assays in the Field in the Territory; provided, however, that (a) for purposes of this definition, "Affiliates" shall exclude any Third Party that becomes an Affiliate of Sangamo after the Effective Date as a result of a Change of Control of Sangamo; (b) Licensed Companion Diagnostic Technology shall exclude all Know-How and Patent Rights licensed to Sangamo pursuant to [*], (c) Licensed Companion Diagnostic Technology shall exclude all Excluded Upstream IP pursuant to Section 2.6, and (d) Licensed Companion Diagnostic Technology shall exclude all Know-How and Patent Rights licensed to Sangamo pursuant to the [*].

1.51 "**Licensed Know-How**" means the Know-How included in the Licensed Technology.

1.52 "**Licensed Patents**" means the Patent Rights included in the Licensed Technology. As of the Effective Date, the Patent Rights listed on **Exhibit A** are Licensed Patents.

1.53 "**Licensed Technology**" means all Know-How and Patent Rights that are Controlled by Sangamo or its Affiliates as of the Effective Date or during the Term, including Sangamo's interest in Joint Inventions and Joint Patents, that are necessary or useful for the Development, Manufacture, use, sale, offer for sale, importation or Commercialization of Products in the Field in the Territory; provided, however, that (a) for purposes of this definition, the Know-How and Patent Rights owned or Controlled by any Third Party that becomes an Affiliate of Sangamo after the Effective Date as a result of a Change of Control of Sangamo shall not be included in the Licensed Technology unless Sangamo or its Affiliates use or develop such Know-How or Patent Rights in the performance of their activities under the Agreement (e.g. in Development or Manufacturing); (b) Licensed Technology shall exclude all Know-How and Patent Rights licensed to Sangamo pursuant to the [*], (c) Licensed Technology shall exclude all Excluded Upstream IP pursuant to Section 2.6, and (d) Licensed Technology shall exclude all Know-How and Patent Rights licensed to Sangamo pursuant to the [*].

1.54 "[*]" means that certain [*].

1.55 "**Major EU Countries**" means France, Germany, Italy, Spain, and United Kingdom.

1.56 "**Major Market Countries**" means U.S., Japan and Major EU Countries.

1.57 "**Manufacture**" means to make, produce, manufacture, process, fill, finish, package, label, perform quality assurance testing, release, ship or store a compound or product or any component thereof. When used as a noun, "Manufacture" or "Manufacturing" means any and all activities involved in the Manufacture of a compound or product or any component thereof.

1.58 "**Manufacturing Costs**" means:

(a) with respect to any material Manufactured by a Party hereunder, the standard unit cost of Manufacture of such material, consisting of direct material and direct labor costs plus Manufacturing overhead attributable to such material (including all directly incurred manufacturing variances), all calculated in accordance with GAAP and such Party's internal cost accounting procedures, consistently applied, wherein (i) direct material costs will include the costs incurred in Manufacturing or purchasing materials for use in Manufacturing such material, including freight costs, sales and excise taxes imposed thereon and customs duty and charges levied by Governmental Authorities, and all costs of packaging components; (ii) direct labor costs will include the costs of employees engaged in direct Manufacturing activities and direct or indirect quality control and quality assurance activities who are directly employed in Manufacturing and packaging such material; (iii) overhead attributable to such material (1) will be calculated and allocated in a manner consistent with the method used to allocate overhead to other material Manufactured in the same facility, (2) will include a reasonable allocation of indirect labor (not previously included in direct labor costs), a reasonable allocation of administrative costs, and a reasonable allocation of facilities costs, all in accordance with GAAP and such Party's internal cost accounting procedures, consistently applied, and (3) will not include corporate administrative overhead or plant start-up costs or costs associated with excess or idle capacity;

(b) with respect to any material Manufactured by a Third Party manufacturer, (i) the actual price paid by such Party or its Affiliates to the Third Party for the Manufacture, supply and packaging of such material, and all taxes and shipping costs related thereto and the cost of any materials supplied and paid for by such Party, including Third Party processing charges associated with any such Third Party costs, such as procurement and accounts payable expenses, and (ii) reasonable and necessary direct labor costs, calculated at the FTE Rate, of such Party's or its Affiliates' employees engaged in activities relating to the selection, engagement, oversight and management of such Third Party manufacturer and the management of such supply (including quality control and quality assistance activities); and

(c) all Manufacturing process development costs incurred by Sangamo and its Affiliates, for process development-related activities specifically included in the Product Development Plan.

1.59 "**Marketing Approval**" means all technical, medical and scientific licenses, registrations, authorizations and approvals (including approvals of BLAs, supplements and amendments, pre- and post- approvals and labeling approvals) of any Regulatory Authority, necessary for the Commercialization of a Product in a given country or regulatory jurisdiction.

1.60 "**Net Sales**" means:

(a) with respect to a Product that is not a Combination Product, the gross receipts from sales by Pfizer and its Affiliates and Sublicensees of such Product to Third Parties in the Territory that is recorded as revenue by Pfizer or its Affiliate or Sublicensee according to such Person's revenue recognition policies consistently applied, less in each case, to the extent actually incurred or allowed with respect to such Product, (i) bad debts actually incurred, (ii) sales returns and allowances actually paid, granted or accrued, including trade, quantity and cash discounts and any other adjustments, including those granted on account of price adjustments, billing errors, rejected goods, damaged or defective goods, recalls, returns, rebates, chargeback rebates, reimbursements or similar payments granted or given to wholesalers or other distributors, buying groups, health care insurance carriers, chain pharmacies, mass merchandisers, staff model HMO's, pharmacy benefit managers or other institutions, (iii) adjustments arising from consumer discount programs or other similar programs, (iv) customs or excise duties, sales tax, consumption tax, value added tax, and other taxes (except income taxes) or duties relating to sales of such Product, (v) any payment in respect of sales of such Product to the United States government, any state government or any foreign government, or to any other Governmental Authority, or with respect to any government-subsidized program or managed care organization, and (vi) freight and insurance (to the extent that Pfizer, its Affiliates or its Sublicensees bear the cost of freight and insurance for the Product); and

(b) with respect to sales in a particular country and Pfizer Quarter of a product containing a Product and one or more other therapeutically active ingredients, excluding empty viral capsids (i.e., AAV vectors which do not contain DNA) (each a "**Combination Product**"), the percentage of the Net Sales in such country of such Combination Product (as determined in accordance with clause (a)) that is calculated as follows:

(i) if the Product and other therapeutically active ingredient(s) of such Combination Product are each sold separately in such country during such Pfizer Quarter, the fraction A/(A+B), where A is the average sale price of the Product as sold separately in such country and Pfizer Quarter and B is the average sale price of the other therapeutically active ingredient(s) in the Combination Product as sold separately in such country and Pfizer Quarter;

(ii) if the Product is sold separately in such country and Pfizer Quarter, but the other therapeutically active ingredient(s) of such Combination Product are not sold separately in such country during such Pfizer Quarter, the fraction A/C, where A is the average sale price of the Product as sold separately in such country and Pfizer Quarter and C is the average sale price of the Combination Product in such country and Pfizer Quarter;

(iii) if the Product is not sold separately in such country and Pfizer Quarter, but the other therapeutically active ingredient(s) of such Combination Product are sold separately in such country during such Pfizer Quarter, the fraction the fraction [1-B/C], where B is the

average sale price in such country and Pfizer Quarter of the other therapeutically active ingredient(s) of such Combination Product and C is the average sale price of the Combination Product in such country and Pfizer Quarter; and

(iv) if neither the Product nor the other therapeutically active ingredient(s) of such Combination Product are sold separately in such country during such Pfizer Quarter, the Parties shall in good faith determine such fraction by mutual agreement based on the relative contribution of the Product and the other active ingredient(s) in the Combination Product, and if the Parties fail to agree, the fraction will be determined by an independent expert agreed by the Parties, whose decision will be binding.

Net Sales will be determined from books and records maintained in accordance with GAAP, as consistently applied by Pfizer, its Affiliate or Sublicense, as applicable, with respect to sales of the Products. For clarity, Net Sales shall not include (i) sales of any Product made at or below cost under a compassionate use program, (ii) distribution of Samples of any Product, or (iii) donations of any Product, in each case by Pfizer, its Affiliates or Sublicensees.

1.61 "**Party Specific Regulations**" means all non-monetary judgments, decrees, orders or similar decisions issued by any Governmental Authority specific to a Party, and all consent decrees, corporate integrity agreements, or other agreements or undertakings of any kind by a Party with any Governmental Authority, in each case as the same may be in effect from time to time and applicable to a Party's activities contemplated by this Agreement.

1.62 "**Patent Rights**" means any and all (a) issued patents, (b) pending patent applications, including all provisional applications, substitutions, continuations, continuations-in-part, divisions and renewals, and all patents granted thereon, (c) patents-of-addition, reissues, reexaminations and extensions or restorations by existing or future extension or restoration mechanisms, including patent term adjustments, patent term extensions, supplementary protection certificates or the equivalent thereof, (d) inventor's certificates, (e) other forms of government-issued rights substantially similar to any of the foregoing and (f) United States and foreign counterparts of any of the foregoing.

1.63 "**Person**" means any individual, partnership, limited liability company, firm, corporation, association, trust, unincorporated organization or other entity.

1.64 "**Pfizer Diligence Obligations**" means Pfizer's Development and Marketing Approval diligence obligations under Section 8.1(a) and Pfizer's Commercialization diligence obligations under Section 8.2.

1.65 "**Pfizer Manufacturing Improvement**" means any Invention made solely by Pfizer, its Affiliates or Sublicensees or its or their employees, agents or independent contractors that are improvements to the manufacturing-related Know-How and Patent Rights included in the Licensed Technology.

1.66 "**Pfizer Manufacturing Technology**" means:

(a) all manufacturing methods, processes and other Know-How that (i) are Controlled by Pfizer or any of its Affiliates, (ii) are directly related to the Manufacture of any Product (including any components of such Products) [*], including any step in the manufacturing process for a Product that [*], and (iii) [*], or [*]; provided, however, that any such methods, processes or Know-How that [*]; and

(b) all Patent Rights Controlled by Pfizer or any of its Affiliates to the extent claiming any of the foregoing.

1.67 "**Pfizer Quarter**" means each of the four (4) thirteen (13) week periods (a) with respect to the United States, commencing on January 1 of any Pfizer Year and (b) with respect to any country in the Territory other than the United States, commencing on December 1.

1.68 "**Pfizer Year**" means the twelve month fiscal periods observed by Pfizer (a) commencing on January 1 with respect to the United States and (b) December 1 with respect to any country in the Territory other than the United States.

1.69 "**Phase I/II Clinical Data Package**" means the package containing all clinical study reports (including the clinical study report prepared by Sangamo based on the clinical data as of the applicable database lock, either interim or final, prior to the first EOP2 Meeting), results and other data in existence as of the applicable database lock, either interim or final, prior to the first EOP2 Meeting (including but not limited to the trial master file and associated quality documentation and attestations to quality procedures) that is generated pursuant to the SB-525 Phase I/II Trial, including the data and documents set forth in **Exhibit E** (the "**Data Package Elements**").

1.70 "[*]" means that certain [*].

1.71 "**Pivotal Trial**" means a human clinical trial of a Product that either (a) would satisfy the requirements of 21 C.F.R. 312.21(c) or corresponding foreign regulations; or (b) is intended (as of the time the clinical trial is Initiated) to obtain sufficient data to support the Filing of a BLA for such Product (but may not include the data that may be necessary to support the Pricing Approval). Pivotal Trial may include (i) a clinical trial that is designed to satisfy the requirements of both 21 C.F.R. 312.21(b) and 21 C.F.R. 312.21(c) or corresponding foreign regulations (i.e., a Phase 2/3 trial), or (ii) a Phase 2 clinical trial that is [*] to satisfy the requirements of 21 C.F.R. 312.21(c) or to provide sufficient data to support the Filing of a BLA for such Product, in which case such Pivotal Trial shall be deemed to [*].

1.72 "**Pricing Approval**" means, in any country where a Governmental Authority authorizes reimbursement for, or approves or determines pricing for, pharmaceutical products, receipt (or, if required to make such authorization, approval or determination effective, publication) of such reimbursement authorization or pricing approval or determination (as the case may be).

1.73 "**Product**" means (a) SB-525, (b) any Additional Product that is approved by the JSC and added to this Agreement as a Product pursuant to Section 4.3, or (c) any gene therapy product that (1) [*], and (2) [*].

1.74 "**Region**" means any of the following: [*].

1.75 "**Regulatory Authority**" means with respect to a country in the Territory, any national (e.g., the FDA), supra-national (e.g., the European Commission, the Council of the European Union, or the European Medicines Agency), regional, state or local regulatory agency, department, bureau, commission, council or other Governmental Authority involved in granting Marketing Approvals for Products in such country, including the FDA, the EMA and any corresponding national or regional regulatory authorities.

1.76 "**Regulatory Exclusivity**" means any exclusive marketing rights or data exclusivity rights conferred by any Regulatory Authority with respect to a pharmaceutical product other than Patent Rights, including orphan drug exclusivity, new chemical entity exclusivity, data exclusivity, pediatric exclusivity, rights conferred in the United States under the Hatch-Waxman Act, the FDA Modernization Act of 1997 or the Biologics Price Competition and Innovation Act, or rights similar thereto outside the United States.

1.77 "**Regulatory Materials**" means all regulatory applications, submissions, notifications, communications, correspondences, registrations, approvals and other filings made to, received from or otherwise conducted with a Regulatory Authority in order to develop, manufacture, or commercialize a Product in a particular country or jurisdiction. "Regulatory Materials" includes all INDs, BLAs and Marketing Approvals.

1.78 "**Relevant Factors**" means all relevant factors that may affect the Development, Marketing Approval, Pricing Approval or Commercialization of a Product, including (as applicable and without limitation): [*]. Without limiting the foregoing, the following shall be considered Relevant Factors with respect to a Product: [*].

1.79 "**Representatives**" means (a) with respect to Pfizer, Pfizer, its Affiliates, its Sublicensees and each of their respective officers, directors, employees, consultants, contractors and agents and (b) with respect to Sangamo, Sangamo, its Affiliates and each of their respective officers, directors, employees, consultants, contractors and agents.

1.80 "**Samples**" means units of a Product which are not intended to be sold or traded, which are intended to be distributed to authorized healthcare professionals, and which are intended to promote the sale of such Product in accordance with 21 C.F.R. Part 203(d), or any successor provisions to such laws and regulations or in accordance with Applicable Law in any non-U.S. jurisdiction where such Product units are to be distributed.

1.81 "**Sangamo Manufacturing Improvement**" means any Invention made solely by Sangamo, its Affiliates or Sublicensees or its or their employees, agents or independent contractors that are improvements to (i) the Pfizer Manufacturing Technology or (ii) the manufacturing-related Know-How and Patent Rights which are Controlled by Pfizer or its

Affiliates as of the Effective Date or during the Term and which are used for the Manufacture of Products in the Field in the Territory.

1.82 "**Sangamo Third Party Agreement**" means any agreement between Sangamo (or any of its Affiliates) and any Third Party (such Third Party, a "**Third Party Licensor**") under which such Third Party grants Sangamo a license under any of the Licensed Technology or Licensed Companion Diagnostic Technology, including Upstream Licenses. For clarity, the Sangamo Third Party Agreements consist of the Current Licenses and the Upstream Licenses, and all Current Licensors shall be deemed Third Party Licensors hereunder.

1.83 "**SB-525**" means Sangamo's proprietary gene therapy product for Hemophilia A known as SB-525, as described in U.S. IND # 17250.

1.84 "**SB-525 Phase I/II Long-Term Follow-Up Study**" means the follow-on clinical study to the SB-525 Phase I/II Trial, which study's purpose will be to further assess the safety of patients from the SB-525 Phase I/II Trial, the protocol of which is set forth in the initial Development Plan, as may be amended from time to time.

1.85 "**SB-525 Phase I/II Trial**" means Sangamo's first-in-human clinical trial of SB-525, the protocol of which is set forth in the initial Development Plan, as may be amended from time to time, for example to address the need for clinical data on a manufacturing change. SB-525 Phase I/II Trial does not include the SB-525 Phase I/II Long-Term Follow-Up Study.

1.86 "**Specified Patents**" means those Patent Rights identified as the Specified Patents in that certain letter [*].

1.87 "**Sublicensee**" means (a) with respect to Pfizer, any Person to whom Pfizer grants or has granted, directly or indirectly, a sublicense of rights licensed by Sangamo to Pfizer under this Agreement or (b) with respect to Sangamo, any Person to whom Sangamo grants or has granted, directly or indirectly, a sublicense of rights licensed by Pfizer to Sangamo under the Agreement.

1.88 "**Target**" means the Factor VIII gene (including partial versions of such gene), which, when defective, contributes to the human disease of Hemophilia A that can be treated by factor replacement.

1.89 "**Territory**" means worldwide.

1.90 "**Third Party**" means any Person other than a Party or an Affiliate of a Party.

1.91 "**Trademarks**" means all trademarks, service marks, trade names, service names, internet domain names, brand names, logos, protectable slogans, and trade dress rights, whether registered or unregistered, and all applications, registrations, and renewals thereof.

1.92 "**United States**" or "**U.S.**" means the United States of America, including its territories and possessions.

1.93 "**Upstream Licensor**" means any licensor of an Upstream License.

1.94 "[*]" means that certain [*].

1.95 "**Valid Claim**" means, with respect to a particular country and Product (a) a claim of an issued and unexpired Patent Right in the Licensed Technology that (i) has not been revoked or held unenforceable, unpatentable or invalid by a decision of a court or other Governmental Authority of competent jurisdiction that is not appealable or has not been appealed within the time allowed for appeal, and (ii) that has not been canceled, withdrawn, abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise, or (b) a claim of a pending patent application that has not been cancelled, withdrawn, abandoned or finally rejected by an administrative agency action from which no appeal can be taken, provided that any claim in any patent application pending for more than [*] years from the earliest date on which such claim claims priority shall not be considered a Valid Claim for purposes of the Agreement from and after such [*] year date unless and until a patent containing such claim issues from such patent application and solely if such patent issues while another Valid Claim Covers the relevant Product in the relevant country.

1.96 **Interpretation**. Except where the context expressly requires otherwise, (a) the use of any gender herein will be deemed to encompass references to either or both genders, and the use of the singular will be deemed to include the plural (and vice versa), (b) the words "include", "includes" and "including" will be deemed to be followed by the phrase "without limitation", (c) the word "will" will be construed to have the same meaning and effect as the word "shall", (d) any definition of or reference to any agreement, instrument or other document herein will be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein), (e) any reference herein to any Person will be construed to include the Person's successors and assigns, (f) the words "herein", "hereof" and "hereunder", and words of similar import, will be construed to refer to this Agreement in its entirety and not to any particular provision hereof, (g) all references herein to Sections or Exhibits will be construed to refer to Sections or Exhibits of this Agreement, and references to this Agreement include all Exhibits hereto, (h) the word "notice" means notice in writing (whether or not specifically stated) and will include notices, consents, approvals and other written communications contemplated under this Agreement, (i) provisions that require that a Party, the Parties or any committee hereunder "agree," "consent" or "approve" or the like will require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise (but excluding e-mail and instant messaging), and (j) references to any specific law, rule or regulation, or article, section or other division thereof, will be deemed to include the then-current amendments thereto or any replacement or successor law, rule or regulation thereof.

1.97 **List of Exhibits and Schedules.** The following is a listing of the Exhibits and Schedules in this Agreement.

Exhibit A:	Licensed Patents
Exhibit B:	Transfer Plan
Exhibit C:	Initial Development Plan

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit D: Joint Press Release
Exhibit E: Data Package Elements
Exhibit F: Manufacturing Tech Transfer Plan
Exhibit G: Specified Patents
Exhibit H: Statement of Work #1
Exhibit I: Exceptions to Sangamo Representations and Warranties
Exhibit J: Pre-clinically Developed Products and Additional Products
Exhibit K: Current Licenses

Schedule 2.1(d): Sangamo Third Party Agreement Provisions
Schedule 4.9: Sangamo Subcontractors

ARTICLE 2
LICENSES; EXCLUSIVITY

2.1 Licenses to Pfizer.

(a) License Grants. Subject to the terms and conditions of this Agreement (including Sangamo's retained rights), effective as of the Effective Date and in each case without limiting any other license (or sublicense) granted under this Agreement, Sangamo hereby grants, and will cause its Affiliates to hereby grant, to Pfizer:

(i) an exclusive (even as to Sangamo and its Affiliates except as provided in Section 2.1(c)), royalty-bearing license (or, to the extent any Licensed Technology is Controlled by Sangamo or its Affiliates pursuant to a Sangamo Third Party Agreement, a sublicense), with the right to sublicense solely as provided in Section 2.1(b), under the Licensed Technology, to use, have used, Develop, have Developed, Manufacture, have Manufactured, Commercialize, have Commercialized and otherwise exploit Products in the Field in the Territory;

(ii) a non-exclusive, royalty-free, fully paid-up license (or sublicense, as applicable), with the right to sublicense solely to Pfizer's Affiliates and to contractors working on behalf of Pfizer or its Affiliates, under the Licensed Technology, to research Additional Products up to but not including [*], during the Exclusivity Period. For clarity, the foregoing license (1) does not include the right to [*] any Additional Product; (2) does not include the right to perform research, without Sangamo's prior written consent, on any Additional Product that [*]; and (3) shall expire at the end of the Exclusivity Period;

(iii) a non-exclusive, fully paid, worldwide, perpetual and irrevocable license, with the right to sublicense solely as provided in Section 2.1(b)(iii), under the Sangamo Manufacturing Improvements, to make and have made any and all products researched or developed by Pfizer or its Affiliates [*] (each a "**Pfizer Product**") and to use, have used, import, have imported, offer for sale, have offered for sale, have sold and sell such Pfizer Products; and

(iv) a fully paid and royalty-free (except to the extent that any payments are owed to any Upstream Licensor with respect to the practice of a sublicense granted pursuant to this subsection (iv)), worldwide, non-exclusive license (or sublicense, as applicable), with the right to sublicense solely as provided in Section 2.1(b), under the Licensed Companion Diagnostic Technology, to use, have used, develop, have developed, make, have made, sell, have sold, offer for sale, import, export, and otherwise exploit Companion Diagnostic Assays (1) for the purpose of predicting or monitoring [*] and (2) with respect to any Companion Diagnostic Assay that has been developed in accordance with the preceding clause (1), for the purpose of predicting or monitoring [*]. Notwithstanding any provision to the contrary in this Agreement, the license granted under Section 2.1(a)(iv)(2) hereof shall be [*]. To the extent that Pfizer or its Affiliate or Sublicensee conducts any development or commercialization of a Companion Diagnostic Assay which was developed using Licensed Companion Diagnostic Technology through a Third Party, Pfizer shall use reasonable efforts to facilitate Sangamo's access to such Companion Diagnostic Assay through such Third Party. For clarity, [*].

(b) Sublicenses.

(i) Subject to the terms and conditions of this Agreement and the applicable Sangamo Third Party Agreements, Pfizer may grant to its Affiliates or Third Parties (through one or more tiers) sublicenses under the licenses granted by Sangamo to Pfizer under Sections 2.1(a)(i) and 2.1(a)(iv) upon written notice to Sangamo; provided that Pfizer shall remain responsible for the performance of all of its Sublicensees to the same extent as if such activities were conducted by Pfizer, and shall remain responsible for any payments due hereunder with respect to activities of any Sublicensees.

(ii) Pfizer shall provide Sangamo with a copy of each executed sublicense agreement within thirty (30) days after execution thereof (excluding any such agreement under which Pfizer grants a sublicense to an Affiliate or solely to conduct Development or Manufacturing on behalf of Pfizer or its Affiliate, unless Sangamo is obligated to provide such copy to a Third Party Licensor in which case Sangamo will obtain the written consent from Pfizer, not to be unreasonably withheld, prior to entering into such license which would obligate Sangamo to provide such copy), which shall be treated by Sangamo as Pfizer's Confidential Information, provided that to the extent required by any Sangamo Third Party Agreement, Sangamo shall be permitted to provide a confidential copy to the applicable Third Party Licensor. Prior to providing a copy of such sublicense agreement to Sangamo, Pfizer may (unless otherwise required by a Sangamo Third Party Agreement and Sangamo has received Pfizer's prior written consent) redact certain terms of any such sublicense agreement to the extent not pertinent to an understanding of a Party's obligations or benefits under this Agreement or a verification of compliance with the requirements of this Agreement.

(iii) Subject to the terms and conditions of this Agreement, Pfizer may, upon written notice to Sangamo, grant sublicenses under the license granted by

Sangamo to Pfizer under Section 2.1(a)(iii) to its Affiliates or Third Parties (through one or more tiers) to whom Pfizer assigns or grants a license under intellectual property rights of Pfizer (other than intellectual property rights licensed by Sangamo to Pfizer under this Agreement) with respect to a Pfizer Product, provided that Pfizer shall remain responsible for the performance of all of its Sublicensees to the same extent as if such activities were conducted by Pfizer. For clarity, Pfizer shall have no right to grant any sublicense under the Sangamo Manufacturing Improvements to make, use or sell any product that is not a Pfizer Product and, in the event Pfizer does grant any such sublicense in violation of this Section 2.1(b)(iii), Sangamo shall have the right to terminate the license granted to Pfizer under Section 2.1(a)(iii).

(iv) Pfizer shall provide Sangamo with written notice of each executed sublicense agreement entered into pursuant to Section 2.1(b)(iii) within thirty (30) days after execution thereof, such notice to include the name of the Sublicensee and a description of the applicable Pfizer Product and sublicense scope, which shall be treated by Sangamo as Pfizer's Confidential Information.

(c) Retained Rights for Exclusive Licenses. Notwithstanding the exclusive license granted by Sangamo to Pfizer under Section 2.1(a)(i), Sangamo retains the rights under the Licensed Technology to perform its obligations and to exercise its rights under this Agreement, whether directly or through one or more subcontractors. In addition, subject to Section 2.5, Sangamo retains the exclusive right to practice and license the Licensed Technology, Sangamo Manufacturing Improvement Technology and Licensed Companion Diagnostic Technology outside the scope of the licenses granted to Pfizer under Section 2.1(a).

(d) Sangamo Third Party Agreements. The licenses granted to Pfizer in Section 2.1(a) include sublicenses under Licensed Technology or Licensed Companion Diagnostic Technology licensed to Sangamo pursuant to the Sangamo Third Party Agreements, which sublicenses are subject to the terms of such Sangamo Third Party Agreements (i.e. those terms set forth on **Schedule 2.1(d)**, which may be amended by the Parties for Sangamo Third Party Agreements entered into after the Effective Date). Pfizer acknowledges and agrees to be bound by such terms, and agrees not to take or fail to take any action that would cause Sangamo to be in breach of any Sangamo Third Party Agreement. Pfizer acknowledges that certain of the licenses granted to Sangamo under the Sangamo Third Party Licenses are non-exclusive, and that Pfizer's license pursuant to Section 2.1(a)(i) with respect to the relevant Licensed Technology are exclusive only with respect to Sangamo, and not with respect to its licensor.

2.2 Licenses to Sangamo.

(a) License Grants. Subject to the terms and conditions of this Agreement, Pfizer hereby grants to Sangamo and its Affiliates:

(i) a non-exclusive, fully paid, royalty-free, worldwide license, with the right to grant sublicenses only to its Affiliates and subcontractors, under all Know-How, Patent Rights and other intellectual property rights Controlled by Pfizer and its Affiliates as of the Effective Date or during the Term, solely to perform Sangamo's and its Affiliates' obligations under this Agreement; and

(ii) a non-exclusive, fully paid and royalty-free (subject to Section 2.2(c), worldwide, perpetual and irrevocable (subject to Section 2.2(b)(i) and Section 2.2(c)) license, with the right to sublicense solely as provided in Section 2.2(b), under the Pfizer Manufacturing Improvements and Pfizer Manufacturing Technology, to make and have made any and all products researched or developed by Sangamo [*] (each a "**Sangamo Product**") and to use, have used, import, have imported, offer for sale, have offered for sale, have sold and sell such Sangamo Products.

(b) Sublicenses.

(i) Subject to the terms and conditions of this Agreement, Sangamo may, upon written notice to Pfizer, grant sublicenses under the licenses granted by Pfizer to Sangamo under Section 2.2(a)(ii) to its Affiliates or Third Parties (through one or more tiers) to whom Sangamo assigns or grants a license under intellectual property rights of Sangamo (other than intellectual property rights licensed by Pfizer to Sangamo under this Agreement) with respect to a Sangamo Product, respectively; provided that Sangamo shall remain responsible for the performance of all of its Sublicensees to the same extent as if such activities were conducted by Sangamo, and shall remain responsible for any and all payments due hereunder, if any, with respect to activities of any such Sublicensees. For clarity, Sangamo shall have no right to grant any sublicense under the Pfizer Manufacturing Improvements or Pfizer Manufacturing Technology to make, use or sell any product that is not a Sangamo Product and, in the event Sangamo does grant any such sublicense in violation of this Section 2.2(b)(i), Pfizer shall have the right to terminate the license granted to Sangamo under Section 2.2(a)(ii).

(ii) Sangamo shall provide Pfizer with written notice of each executed sublicense agreement entered into pursuant to Section 2.2(b)(i) within thirty (30) days after execution thereof, such notice to include the name of the Sublicensee and a description of the applicable Sangamo Product and sublicense scope, which shall be treated by Pfizer as Sangamo's Confidential Information.

(c) Costs. In the event that any Pfizer Manufacturing Technology is licensed to Pfizer by a Third Party, Pfizer shall notify Sangamo promptly after disclosing such Pfizer Manufacturing Technology to Sangamo pursuant to Section 6.3(c), including a description of such Pfizer Manufacturing Technology and any payments that Pfizer would be obligated to pay directly as a result of Pfizer's grant to Sangamo of the license under Section 2.2(a)(ii), Sangamo's grant of a sublicense to any of its Affiliates or any Third Party under such license, or the practice of such license or sublicense, as the case may be, by or on behalf of Sangamo, its Affiliates or any of their respective licensees, Sublicensees or contractors. If within [*] days thereafter, Sangamo notifies Pfizer that it does not desire to obtain a sublicense under such Know-How and/or Patent Rights, then such Know-How and Patent Rights will be deemed excluded from the Pfizer Manufacturing Technology. If Sangamo does not notify Pfizer during such [*]-day period that it does not desire such sublicense, then Sangamo shall (i) provide Pfizer, in a timely manner as necessary for Pfizer to comply with its obligations to the Third Party as disclosed to Sangamo, with all information needed in order to determine the requirement to make and the amount of any such payment and (ii)

promptly (but in no event later than [*] days after Pfizer's submission of an invoice therefor) reimburse Pfizer for the full amount of such payment; provided that at any time Sangamo shall have the right to terminate its sublicense to such Pfizer Manufacturing Technology on [*] written notice to Pfizer, after which the foregoing obligations will terminate with respect to obligations (excluding payments for uncancellable obligations or payments obligations that have been incurred or matured prior to the effective date of termination) accrued under such sublicense after the effective date of termination. Pfizer shall have the right to terminate the sublicense granted to Sangamo with respect to any Pfizer Manufacturing Technology in-licensed from a Third Party in the event Sangamo fails to provide Pfizer any such information or reimburse Pfizer for any such payment(s) required under Pfizer's agreement with such Third Party and fails to cure such failure within [*] days after written notice thereof from Pfizer specifying the failure.

2.3 Reciprocal Non-Exclusive Research License for Disclosed Know-How and Confidential Information. Subject to any pre-existing exclusive license grants to Third Parties as of the Effective Date, and excluding any license whose grant or practice would cause Sangamo to be in breach of any exclusivity obligation to any Third Party existing as of the Effective Date, and without limiting any other license granted to either Party under this Agreement:

(a) Pfizer hereby grants and shall cause its Affiliates to hereby grant to Sangamo a non-exclusive, irrevocable, perpetual, royalty-free, fully paid-up, worldwide license, with the right to sublicense to Sangamo's Affiliates, to use for research purposes (which excludes [*]) all Know-How and Confidential Information of Pfizer that is (i) Controlled by Pfizer or its Affiliates and (ii) disclosed to Sangamo or its Affiliates pursuant to this Agreement during the Term; provided that nothing in this Section 2.3(a) shall give Sangamo or its Affiliates any right to practice under any Patent Right owned or Controlled by Pfizer or its Affiliates.

(b) Sangamo hereby grants and shall cause its Affiliates to hereby grant to Pfizer a non-exclusive, irrevocable, perpetual, royalty-free, fully paid-up, worldwide license, with the right to sublicense to Pfizer Affiliates, to use for research purposes (which excludes [*]) all Know-How and Confidential Information of Sangamo that is (i) Controlled by Sangamo or its Affiliates and (ii) disclosed to Pfizer or its Affiliates pursuant to this Agreement during the Term; provided that nothing in this Section 2.3(b) shall give Pfizer or its Affiliates any right to practice under any Patent Right owned or Controlled by Sangamo or its Affiliates.

2.4 No Implied Licenses; Negative Covenant. Except as expressly set forth herein, neither Party shall acquire any license or other intellectual property interest, by implication or otherwise, under or to any Patent Rights, Know-How, or other intellectual property owned or controlled by the other Party. Neither Party shall, nor shall permit any of its Affiliates or Sublicensees to, practice any Patent Rights or Know-How licensed to it by the other Party outside the scope of the license granted to it under this Agreement, provided that, notwithstanding anything to the contrary in this Agreement, nothing in this Agreement (including but not limited to this Section 2.4 or Section 4.3(c)) shall be deemed to prevent or restrict in any way the ability of a Party or its Affiliates to conduct any activities in the Territory, which activities would be allowed under any safe harbor, research exemption, government or executive declaration of urgent public health need, or similar right available in law or equity if conducted by a Third Party.

2.5 Exclusivity.

(a) Exclusivity Obligations. Except for their activities conducted under this Agreement and subject to the exception set forth in Section 2.5(b) below, during the time period [*] (the "**Exclusivity Period**"), neither Party shall, whether by itself, its Affiliates or with or through any Third Party, conduct any clinical development of, manufacture any clinical or commercial supply of, or commercialize, any [*] (a "**Competing Program**").

(b) Exception. Notwithstanding Section 2.5(a), if a Third Party becomes an Affiliate of a Party during the Exclusivity Period through merger, acquisition, consolidation or other similar transaction and such new Affiliate, as of the effective date of such transaction, is engaged, or has a then-existing plan to engage, in the conduct of a Competing Program:

(i) If such transaction results in a Change of Control of such Party, then such new Affiliate shall have the right to continue such Competing Program and such continuation shall not constitute a breach by such Party of its exclusivity obligation set forth in Section 2.5(a), provided that such new Affiliate conducts such Competing Program independently of the activities under this Agreement and does not use any Licensed Technology or the Confidential Information of the other Party in the conduct of such Competing Program.

(ii) If such transaction does not result in a Change of Control of such Party, then such Party and its new Affiliate shall have [*] months from the closing date of such transaction to wind down or divest such Competing Program, and its new Affiliate's conduct of such Competing Program during such [*] month period shall not constitute a breach by such Party of its exclusivity obligations set forth in Section 2.5(a), provided that such new Affiliate conducts such Competing Program during such [*] month period independently of the activities under this Agreement and does not use any Licensed Technology or the Confidential Information of the other Party in the conduct of such Competing Program.

2.6 Upstream Licenses. If, during the Term, Sangamo obtains Control of any intellectual property rights (other than the Specified Patents) that are owned or controlled by a Third Party and that are necessary or useful for the Development, Manufacture, use, sale, offer for sale, importation or Commercialization of any Product in the Field in the Territory, then Sangamo shall notify Pfizer in writing, including a description of such intellectual property rights, if they have been non-exclusively ("**Non-Exclusive Upstream License**") or exclusively ("**Exclusive Upstream License**") licensed and, with respect to such non-exclusively licensed intellectual property rights, of any payments that would be due as a result of the grant, maintenance or exercise of a sublicense to Pfizer under such intellectual property rights and a reasonable allocation (based on the scope of the license relative to the scope of the sublicense to Pfizer and provided that Sangamo disclose all the other relevant facts used by Sangamo to determine said reasonable allocation) of any other amounts payable under such license agreement that do not result solely from activities with respect to a particular product or entity (e.g., upfront fees or annual license fees). Notwithstanding anything in this Agreement to the contrary, the term and conditions specified in **Exhibit G** shall apply to the Specified Patents. Each Non-Exclusive Upstream

License for which Pfizer agrees to reimburse Sangamo for payments thereunder pursuant to Section 2.6(a), and each Exclusive Upstream License, will be an "**Upstream License**".

(a) Non-Exclusive Upstream Licenses. If within [*] days after the receipt of such notice regarding a Non-Exclusive Upstream License, Pfizer agrees in writing to reimburse Sangamo for all payments due under such license as described above in this Section 2.6, then such intellectual property rights shall be included in the Licensed Technology and sublicensed to Pfizer under the terms and conditions of this Agreement (which sublicense shall be subject and subordinate to the terms and conditions of the Upstream License), and the agreement pursuant to which Sangamo obtained Control of such intellectual property rights shall become an Upstream License under this Agreement. If Pfizer does not agree in writing within such [*] days to reimburse Sangamo for all such payments, then such intellectual property rights shall be deemed "**Excluded Upstream IP**" and shall be excluded from the Licensed Technology, and the agreement pursuant to which Sangamo obtains Control of such intellectual property rights shall not be included in the Upstream Licenses. For avoidance of doubt, should Pfizer secure a license to any Excluded Upstream IP, [*] would apply.

(b) Exclusive Upstream Licenses. If Sangamo obtains an Exclusive Upstream License, such exclusively licensed intellectual property rights shall be included in the Licensed Technology and sublicensed to Pfizer under the terms and conditions of this Agreement (which sublicense shall be subject and subordinate to the terms and conditions of the Upstream License), and the agreement pursuant to which Sangamo obtains Control of such intellectual property rights shall automatically become an Upstream License under this Agreement.

(c) Information. Pfizer shall (i) provide Sangamo, in a timely manner as necessary for Sangamo to comply with its obligations under each Sangamo Third Party Agreement, with all information needed in order to determine the requirement to make, and the amount of, any payment thereunder, to the extent resulting from the grant, maintenance or exercise of a sublicense to Pfizer and (ii) promptly (but in no event later than [*] days after Sangamo's submission of an invoice therefor) reimburse Sangamo for the full amount of each such payment under a Non-Exclusive Upstream License; provided Sangamo has provided Pfizer the information required under Section 2.6 and any other information necessary for Pfizer to comply with any payment obligations and in the case of clause (ii), Pfizer has agreed under Section 2.6(a) to make such payments.

2.7 Direct Licenses to Affiliates. Pfizer may, from time to time, request that Sangamo grant licenses or sublicenses, to the Licensed Technology or Licensed Companion Diagnostic Technology and of the same or narrowed scope as the licenses granted to Pfizer pursuant to Section 2.1(a), directly to Affiliates of Pfizer by giving written notice, upon receipt of which Sangamo agrees to enter into and sign a separate direct license or sublicense agreement with such designated Affiliate of Pfizer. All such direct license or sublicense agreements will be consistent with the terms and conditions of this Agreement, except for such modifications as may be required by applicable Laws in the country in which the direct license or sublicense will be exercised (excluding any such modifications that would require Sangamo to grant additional rights or take on additional obligations beyond what is set forth in this Agreement without any such modifications). The Parties further agree to make any amendments to this Agreement that are

necessary to conform the combined terms of such direct licenses or sublicenses and this Agreement to the terms of this Agreement as set forth on the Effective Date. In connection with any such direct license, Sangamo may require that Pfizer guarantee the performance of its Affiliate. All reasonable costs of making such direct license or sublicense agreement(s) or amending this Agreement, including Sangamo's reasonable attorneys' fees, under this Section 2.7 will be borne by Pfizer and reimbursed to Sangamo within [*] days of Sangamo's invoice therefor.

2.8 Right of Reference. Sangamo hereby grants to Pfizer, its Affiliates and its Sublicensees a "Right of Reference," as that term is defined in 21 C.F.R. § 314.3(b) (or any analogous Law recognized outside of the United States), to all regulatory filings Controlled by Sangamo or its Affiliates that directly relate to any Product, solely for purposes of Developing, Manufacturing and Commercializing Products in the Field in the Territory, and Sangamo will provide a signed statement to this effect, if requested by Pfizer, in accordance with 21 C.F.R. § 314.50(g)(3) (or any analogous Law outside of the United States). In addition, Pfizer hereby grants to Sangamo, its Affiliates and its Sublicensees a "Right of Reference," as that term is defined in 21 C.F.R. § 314.3(b) (or any analogous Law recognized outside of the United States), to all Regulatory Materials (including the data contained in such Regulatory Materials) submitted by Pfizer, its Affiliates, Sublicensees or their CMOs in connection with the Manufacture of any Product, which right of reference Sangamo may use in connection with its practice of the license granted by Pfizer to Sangamo under Section 2.2(a)(ii) above. Pfizer will provide a signed statement to this effect, if requested by Sangamo, in accordance with 21 C.F.R. § 314.50(g)(3) (or any analogous Law outside of the United States).

2.9 Sangamo Third Party Agreements.

(a) Maintenance of Sangamo Third Party Agreements. Sangamo will maintain in full effect and will perform all of its obligations in a timely manner under each of the Sangamo Third Party Agreements. Absent Pfizer's prior written consent (which may be provided, conditioned or withheld in Pfizer's sole discretion), Sangamo will not terminate, modify or amend any Sangamo Third Party Agreements in any manner that would (i) adversely affect any of the rights granted to Pfizer under this Agreement, (ii) impose any obligations upon Pfizer hereunder that are in addition to those obligations that exist under this Agreement based on the Current Licenses as they exist on the Effective Date or each Upstream License as it exists when it becomes an Upstream License pursuant to Section 2.6 or (iii) adversely affect Sangamo's ability to perform its obligations under this Agreement. Further, Sangamo will not take any action or omit to take any action that would cause it to be in material breach of any Sangamo Third Party Agreements or that would give rise to a right of any Third Party Licensor to terminate the applicable Sangamo Third Party Agreements.

(b) Communications and Performance. Notwithstanding anything to the contrary in this Agreement, Sangamo will facilitate any communications between Pfizer and any Third Party Licensor required for Pfizer to exercise the rights granted to it pursuant to this Article 2 and will use Commercially Reasonable Efforts to cause each applicable Third Party Licensor to perform all of its obligations under the applicable Sangamo Third Party Agreement that are necessary to effectuate the rights granted to Pfizer under this Agreement.

(c) Breach of Sangamo Third Party Agreement. If Sangamo receives notification from the applicable Third Party Licensor of any actual or potential breach by Sangamo, or otherwise becomes aware of its breach, of any Sangamo Third Party Agreement, which breach if uncured could give rise to the termination of the applicable Sangamo Third Party Agreement, then Sangamo will promptly notify Pfizer of such breach, such notice to include a copy of the notification (if any) received from such Third Party Licensor. To the extent that any act or omission on the part of Pfizer is the cause of such breach of a Sangamo Third Party Agreement, Pfizer will take all actions and provide Sangamo with all cooperation necessary to cure such breach, in each case as reasonably requested by Sangamo and at Pfizer's sole cost and expense. To the extent that Pfizer is not the cause of such breach of a Sangamo Third Party Agreement, Sangamo will have the first opportunity to cure such breach in accordance with a plan to be mutually agreed upon by the Parties in writing, acting reasonably (each, a "**Cure Plan**"). If (a) Sangamo does not use diligent efforts to cure such breach pursuant to the applicable Cure Plan or (b) Sangamo is unable to cure such breach in accordance with the applicable Cure Plan or it becomes reasonably apparent that Sangamo will not be able to cure such breach pursuant to the applicable Cure Plan, in each case during the applicable cure period, then Pfizer may, at its election and in its sole discretion, act reasonably to cure such breach and Sangamo will take all actions and provide Pfizer with all cooperation to cure such breach, in each case as reasonably requested by Pfizer. Further, if Pfizer is not the cause of such breach, then Sangamo will, at Pfizer's sole election, (i) reimburse Pfizer for all reasonable out-of-pocket costs and expenses incurred by or on behalf of Pfizer or any of its Representatives in connection with curing such breach; or (ii) permit Pfizer to offset any such reasonable out-of-pocket costs and expenses incurred by or on behalf of Pfizer or any of Pfizer's Representatives in connection with curing such breach against Pfizer's future payment obligations to Sangamo (or any of its successor or assigns) under this Agreement.

(d) Termination of any Sangamo Third Party Agreement. In the event that any Sangamo Third Party Agreement is terminated by the applicable Third Party Licensor and this Agreement, as of the effective date of such termination, has not otherwise been terminated in its entirety, Pfizer, to the extent permitted by such Sangamo Third Party Agreement (or if not permitted or addressed in such Sangamo Third Party Agreement, to the extent permitted by the applicable Third Party Licensor), will have the right, at Pfizer's election, to convert the sublicenses granted under this Agreement by Sangamo to Pfizer under the Licensed Technology licensed to Sangamo pursuant to such Sangamo Third Party Agreement to a direct license from the applicable Third Party Licensor to Pfizer on the terms and conditions contained in such Sangamo Third Party Agreement (with Pfizer assuming the applicable obligations of Sangamo thereunder) or such other terms and conditions as may be negotiated by Pfizer and the applicable Third Party Licensor. In the event Pfizer enters into any such direct license with a Third Party Licensor, Sangamo will, at Pfizer's sole election, (i) reimburse Pfizer for all reasonable out-of-pocket costs and expenses incurred by or on behalf of Pfizer or any of its Representatives in connection with entering into and exercising its rights or performing under such direct license to the extent that Sangamo would have borne such costs if the applicable Sangamo Third Party Agreement had not been terminated; or (ii) permit Pfizer to offset any such reasonable out-of-pocket costs and expenses (to the extent not reimbursed pursuant to clause (i) above) incurred by or on behalf of Pfizer or any of Pfizer's Representatives in connection with entering into and exercising its rights or performing under such direct license to the extent that Sangamo would have borne such costs if the applicable Sangamo

Third Party Agreement had not been terminated, against Pfizer's future payment obligations to Sangamo (or any of its successor or assigns) under this Agreement.

(e) Consents and Waivers. In the event that any provision in any Sangamo Third Party Agreements which conflicts with this Agreement or adversely impacts the activities contemplated under this Agreement comes to the attention of either Sangamo or Pfizer, then either the Parties will (i) in Pfizer's sole discretion, amend this Agreement to avoid such conflict or (ii) Sangamo, in consultation with Pfizer, will use Commercially Reasonable Efforts to obtain any and all additional required consents or waivers from the applicable Third Party Licensor(s) which may be necessary to align the conflicting provision(s) of the applicable Sangamo Third Party Agreement with this Agreement and to permit the activities contemplated by this Agreement. Notwithstanding the foregoing, Sangamo shall not have any obligation to obtain or attempt to obtain any rights to file, prosecute, maintain, enforce, defend or extend any Patent within the Licensed Technology that is non-exclusively licensed to Sangamo pursuant to a Sangamo Third Party Agreement.

2.10 Transfer of Non-Manufacturing Licensed Know-How to Pfizer. As of the Effective Date, the Parties have agreed on a plan for the initial transfer of Licensed Know-How (including relevant tangible materials, such as plasmids and cell lines), attached hereto as **Exhibit B** (the "**Transfer Plan**"). Promptly after the Effective Date and pursuant to the Transfer Plan, Sangamo shall disclose and make available to Pfizer the Licensed Know-How in existence as of the Effective Date and not already known to Pfizer. Thereafter, upon Pfizer's reasonable request (no more than once every [*]), Sangamo shall disclose and make available to Pfizer additional Licensed Know-How that has not been previously provided to Pfizer. The technology transfer under this Section 2.10 shall not include the transfer of Licensed Know-How for the Manufacture of the Products (the transfer of which shall be conducted in accordance with Article 6 below). The Parties shall cooperate with each other in good faith to enable a smooth transfer of the Licensed Know-How to Pfizer. Upon Pfizer's reasonable request, Sangamo shall provide reasonable technical assistance, including making appropriate personnel available to Pfizer at reasonable times, places and frequency and upon reasonable prior notice, for the purpose of assisting Pfizer to understand and use the Licensed Technology in connection with Pfizer's Development of the Products.

2.11 Costs of Transfer of Technology and Data to Pfizer. Sangamo shall be responsible for the cost and expenses it incurs in connection with the technology and data transfer performed in accordance with Exhibits B and F. If Pfizer requests that Sangamo transfer any Licensed Know-How or provide any additional technical assistance, in each case that is not included in Exhibit B or F, Pfizer shall reimburse Sangamo for (a) all out-of-pocket costs incurred by Sangamo for such activities and (b) the internal costs incurred by Sangamo for such activities in excess of [*] hours, which equals [*] at the FTE Rate as of the Effective Date (as such amount will be adjusted to reflect adjustments in the FTE Rate) ((a) and (b) collectively, the "**Transfer Costs**"). If Sangamo incurs any Transfer Costs, Sangamo shall submit an invoice to Pfizer within [*] days after each Pfizer Quarter pursuant to Section 9.7 for all Transfer Costs incurred in such Pfizer Quarter, and Pfizer shall pay to Sangamo the amount invoiced within [*] days after the receipt of the invoice and the corresponding report.

ARTICLE 3
GOVERNANCE

3.1 Alliance Managers and Liaisons.

(a) Alliance Managers. Promptly after the Effective Date, each Party shall appoint a representative to act as its alliance manager under this Agreement (each, an "**Alliance Manager**") by providing written notification to the other Party. The Alliance Managers shall be primarily responsible for facilitating the flow of information and otherwise promoting communication, coordination and collaboration between the Parties under this Agreement. All request for information from one Party to the other Party will be made through the Alliance Managers. The Alliance Managers shall have the right to attend all meetings of the JSC, JCRC, JMC, JIPC and all other Committees (if any) as non-voting members, and bring matters to the attention of the relevant Committee if the Alliance Manager reasonably believes that such matter warrants such attention. Each Party may replace its Alliance Manager at any time upon written notice to the other Party.

(b) Clinical Liaisons. Promptly after the Effective Date, each Party shall appoint a representative to act as its clinical liaison under this Agreement (each, a "**Clinical Liaison**") by providing written notification to the other Party. Such Clinical Liaison must have relevant experience with managing and overseeing clinical trials. Each Party may replace its Clinical Liaison at any time upon written notice to the other Party. The Clinical Liaisons shall be primarily responsible for promoting communication, coordination, and collaboration between the Parties and Sangamo's clinical CRO and other vendors supporting or providing services to the SB-525 Phase I/II Trial and/or the SB-525 Phase I/II Long-Term Follow-Up Study. Before the [*], the Clinical Liaisons will meet (which may be in person at Sangamo at Pfizer's discretion) once every [*] for up to [*], or such other amount of time as may be mutually agreed by the Clinical Liaisons, which meeting will, if permitted under Sangamo's contract with the CRO, include a representative from Sangamo's CRO (who may or may not be in person at Sangamo) for some portion of such meeting, to discuss the conduct and results of the SB-525 Phase I/II Trial and/or the SB-525 Phase I/II Long-Term Follow-Up Study.

(c) Manufacturing Liaisons. Promptly after the Effective Date, each Party shall appoint a representative to act as its manufacturing liaison under this Agreement (each, a "**Manufacturing Liaison**") by providing written notification to the other Party. Such Manufacturing Liaison must have relevant experience with manufacturing biopharmaceuticals. Each Party may replace its Manufacturing Liaison at any time upon written notice to the other Party. The Manufacturing Liaisons shall be primarily responsible for promoting communication, coordination and collaboration between the Parties and Sangamo's manufacturing CMO. Until [*], the Manufacturing Liaisons will meet (which may be in person at Sangamo at Pfizer's discretion) once every [*] for up to [*], or such other amount of time as may be mutually agreed by the Manufacturing Liaisons, which meeting will, if permitted under Sangamo's contract with the CMO, include a representative from Sangamo's CMO (who may or may not be in person at Sangamo) for some portion of such meeting, to discuss the work being performed pursuant to said statement of work.

3.2 Joint Steering Committee. The Parties hereby establish a joint steering committee (the "**JSC**"), composed of two (2) (or a larger number agreed by the Parties) representatives of each Party, to manage the overall collaboration of the Parties under this Agreement. The JSC shall in particular:

(a) coordinate the activities of the Parties under this Agreement, including facilitating communications between the Parties with respect to the Development and Manufacture of Products;

(b) provide a forum for the discussion of the Development and Manufacture of Products and of updates provided by Pfizer regarding its plans to Commercialize Products (for clarity such updates not to include sales forecasts or details of what Pfizer will specifically be doing to commercialize any Product (e.g., sales force size, targeting, access plans or pricing, etc.);

(c) with respect to the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates), review progress, including, for example, data outputs prepared for review by the Safety Monitoring Committee (SMC) or for any other purpose, endorse actions, provide program decisions and approve proposed amendments to the Development Plan (inclusive of Sangamo's manufacture of SB-525);

(d) with respect to the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates), review all amendments to the study protocol and approve material amendments to the study protocol and external data presentation/publication plan;

(e) review and discuss each Additional Product submitted by either Party during the Term and decide whether to include such Additional Product as a Product under this Agreement;

(f) direct and oversee the operation of the JCRC, JMC, JIPC and any other joint subcommittee established by the JSC, including endorsement of recommendations and joint decision-making on matters raised by the Committees, and including resolving any disputed matter of such Committees;

(g) establish additional joint subcommittees or working teams as it deems necessary or advisable to further the purpose of this Agreement; and

(h) perform such other functions as appropriate to further the purposes of this Agreement, as expressly set forth in this Agreement or allocated to it, in all cases by the Parties' written agreement.

3.3 Joint Clinical/Regulatory Committee. The Parties hereby establish a joint clinical/regulatory committee (the "**JCRC**"), composed of two (2) (or a larger number agreed by the Parties) representatives of each Party, to monitor and coordinate the conduct of the clinical Development of the Products and related regulatory activities. The JCRC shall in particular:

(a) discuss updates provided by Sangamo regarding the results and activities related to the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates);

(b) discuss updates provided by Pfizer (i) before the IND Transition Date, on the plans for the SB-525 Pivotal Trial, the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Pfizer or its Affiliates) and (ii) after the IND Transition Date, on material protocol amendments, identification of safety signals and periodic updates on site and enrollment status and trial results for clinical trials of Products conducted by or on behalf of Pfizer;

(c) with respect to the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates), resolve issues, provide recommendations and prepare updates or amendments to the Development Plan and submit such updates and amendments to the JSC for review and approval;

(d) with respect to the SB-525 Phase I/II and the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates), monitor the quality of the trials (including, for example, data quality/integrity and adherence to GCP by CRO, vendors, and Sangamo) and all material clinical activities for Products, including clinical trial planning and conduct and creation of documentation supporting clinical activities, and review and approve the following, to the extent not finalized as of the Effective Date, and any material amendments to the following: the statistical analysis plan, data quality plan, data management plan and charters for oversight committees, such as the safety monitoring committees, data monitoring committees and any adjudication committees, provided that in the case of independent committee charters, this shall be limited to review;

(e) with respect to the SB-525 Phase I/II and the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates), monitor and coordinate all regulatory actions, including information exchange on regulatory strategy and related activities as well as review of key regulatory deliverables and outcomes;

(f) review and discuss regulatory actions for Products conducted outside the U.S. before the IND Transition Date, including regulatory strategy as well as review of key regulatory deliverables and outcomes;

(g) monitor and discuss the preparation and submission of Regulatory Materials for the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates);

(h) coordinate the transfer of the IND for SB-525 pursuant to Section 5.2;

(i) provide a forum for and facilitate communications between the Parties with respect to the Development of Products; and

(j) perform such other functions as may be appropriate to further the purposes of this Agreement with respect to the Development of Products, in all cases as allocated to the JCRC by the Parties' written agreement.

3.4 Joint Manufacturing Committee. The Parties hereby establish a joint manufacturing committee (the "**JMC**"), composed of two (2) (or a larger number agreed by the Parties) representatives of each Party to monitor and coordinate the Manufacture and supply of the Products under this Agreement. The JMC shall in particular:

(a) coordinate the activities of the Parties with respect to the Manufacture and supply of Products for clinical and commercial use;

(b) provide a forum for and facilitate communications between the Parties with respect to the Manufacture and supply of Products, including the development and scale up of the manufacturing processes for Products;

(c) coordinate and facilitate the transfer of manufacturing Know-How as and to the extent provided in Article 6; and

(d) perform such other functions as may be appropriate to further the purposes of this Agreement with respect to the Manufacture and supply of Products, in all cases as allocated to the JMC by the Parties' written agreement.

3.5 Joint Intellectual Property Committee. The Parties hereby establish a joint intellectual property committee (the "**JIPC**"), composed of one (1) patent counsel or agent of each Party to coordinate intellectual property related activities under this Agreement. The JIPC shall in particular:

(a) coordinate the Parties' patent prosecution and enforcement activities under Article 10, and make periodic reports of the same to the JSC and other Committees upon request;

(b) review and discuss Inventions (including inventorship and ownership) generated from the Parties' activities under this Agreement; and

(c) perform such other functions as may be appropriate to further the purposes of this Agreement with respect to intellectual property related activities under this Agreement; provided that in no event will the JIPC or any other Committee have any decision-making authority with respect to any intellectual property-related activity that is allocated to one of the Parties under this Agreement.

3.6 Committee Membership and Meetings.

(a) Committee Members. Within [*] days after the Effective Date, each Party shall appoint its representatives on the JSC, JCRC, JMC and JIPC, by providing written notification to the other Party. Each Party may replace its representatives on any Committee on written notice to the other Party, but each Party shall strive to maintain continuity in the representation of its Committee members. Each Party shall appoint one (1) of its representatives

on each Committee to act as a co-chairperson of such Committee. The co-chairpersons shall jointly prepare and circulate agendas to Committee members at least [*] days before each Committee meeting and shall direct the preparation of reasonably detailed minutes for each Committee meeting, which shall be approved by the co-chairpersons and circulated to Committee members within [*] days of such meeting. Each Party shall be solely responsible for the costs incurred by its representatives in attending any Committee meeting and such costs shall not be included in Sangamo Development Costs or Sangamo Manufacture Costs.

(b) Meetings. Each Committee (other than the JIPC, which shall meet only as directed to by the JSC) shall hold meetings at such times as it elects to do so, but in no event shall such meetings be held less frequently than (i) once every [*] months during the SB-525 Phase I/II Trial and (ii) once every [*] months thereafter. Meetings of any Committee may be held in person, by audio or video teleconference; provided that unless otherwise agreed by both Parties, at least (i) [*] meetings per year for each Committee (other than JIPC) shall be held in person during the SB-525 Phase I/II Trial and (ii) [*] meeting per year for each Committee (other than JIPC) shall be held in person thereafter. All in-person Committees shall be held at locations in the U.S. to be alternately selected by the Parties. Each Party shall be responsible for all of its own costs and expenses of participating in any Committee meetings. During the Phase I/II Trial, no action taken at any meeting of a Committee shall be effective unless at least one (1) representative of each Party is participating.

(c) Ad Hoc Meetings. On [*] days' written notice, either Party may request an ad-hoc meeting of a Committee to discuss issues that due to urgency need to be addressed prior to the next scheduled Committee meeting. Ad-hoc meetings may occur via audio or video teleconference or in-person as the Parties may agree.

(d) Non-Member Attendance. Each Party may from time to time invite a reasonable number of participants, in addition to its representatives, to attend the Committee meetings in a non-voting capacity; provided that if either Party intends to have any Third Party (including any consultant) attend such a meeting, such Party shall provide at least [*] days prior written notice to the other Party and obtain the other Party's approval for such Third Party to attend such meeting, which approval shall not be unreasonably withheld or delayed. Such Party shall ensure that such Third Party is bound by confidentiality and non-use obligations consistent with the terms of this Agreement.

3.7 Decision-Making.

(a) Consensus; Escalation. All decisions within the authority of each Committee shall be made by unanimous vote, with each Party's representatives collectively having one (1) vote. If a Committee is unable to reach agreement as to a particular matter within such Committee's jurisdiction, including due to a lack of a Party's attendance at a Committee meeting, within [*] days (or a later date mutually agreed to by the Parties) after such matter has been brought to such Committee for resolution, such disagreement shall, in case of disagreement of the JCRC, JMC, JIPC or other joint subcommittee, be referred to the JSC for resolution, and in the case of disagreement of the JSC, be referred to the Executive Officers of the Parties for resolution.

(b) Final Decision Making. If the Executive Officers do not fully resolve any matter within any Committee's authority and referred to them under Section 3.7(a) within [*] days (or a later date mutually agreed to by the Parties) of the matter being referred to them, then [*] such disputed matter; except that [*]:

(i) [*], including [*] that [*], provided that [*] or [*] or that [*];

(ii) [*] except [*];

(iii) [*];

(iv) [*] or [*];

(v) [*];

(vi) [*] that [*];

(vii) [*]; and

(viii) [*].

3.8 Limitations of Committee Authority. Each Committee shall only have the powers expressly assigned to it in this Article 3 and elsewhere in this Agreement (which powers do not include the power to make Commercialization or intellectual property decisions) and shall not have the authority to: (a) modify or amend the terms and conditions of this Agreement; (b) waive or determine either Party's compliance with the terms and conditions of under this Agreement; or (c) decide any issue in a manner that would conflict with the express terms and conditions of this Agreement.

3.9 Discontinuation of Participation on a Committee. The activities to be performed by each Committee shall solely relate to governance under this Agreement, and are not intended to be or involve the delivery of services. Each Committee shall continue to exist until the first to occur of: (a) the Parties mutually agreeing to disband the Committee; (b) Sangamo providing written notice to Pfizer of its intention to disband and no longer participate in such Committee; or (c) [*]. Once a Committee ceases to exist as provided in the previous sentence, such Committee shall have no further obligations under this Agreement and, thereafter, each Party shall designate a contact person for the exchange of information under this Agreement. Notwithstanding the foregoing, all Committees will disband after the First Commercial Sale of a Product.

ARTICLE 4
DEVELOPMENT

4.1 General. Subject to the terms and conditions of this Agreement and as outlined in this Article 4 below, the Parties shall collaborate with respect to the Development of Products under the direction of the JCRC and pursuant to the Development Plan(s).

4.2 Development Plan. The Development of each Product under this Agreement shall be conducted pursuant to a detailed Development plan (each a "**Development Plan**"), which shall set forth the timeline and details of all major Development activities to be conducted by or on behalf of Sangamo and/or Pfizer, as applicable, to support BLA and other Marketing Approval filings, including all pre-clinical, manufacturing, assay, clinical and regulatory Development work necessary to generate the data required for BLA Filings for such Product. The Development Plan shall also include the budget for the SB-525 Phase I/II Development activities to be conducted by Sangamo. As of the Effective Date, the Parties have agreed on the initial Development Plan for SB-525, which is attached hereto as **Exhibit C** ("**SB-525 Development Plan**"). From time to time during the Term (but no less than [*] during the SB-525 Phase I/II Trial and no less than [*] thereafter), the JCRC shall prepare updates and amendments to the then-current Development Plan(s) and submit such updates and amendment to the JSC for review and approval. Once approved by the JSC (to the extent applicable) such updated or amended Development Plan(s) shall become effective. The Development Plan(s) (including updates and amendments thereto) shall be consistent with the terms of this Agreement. In the event of an inconsistency between a Development Plan and this Agreement, the terms of this Agreement shall prevail.

4.3 Products Other Than SB-525; Additional Products.

(a) The Parties intend to focus their Development efforts on SB-525, but (i) each Party may, in its discretion, conduct research on Products other than SB-525 and (ii) each Party may, in its discretion, subject to Section 2.1(a)(ii), conduct research on Additional Products [*], at its own cost and expense. If either Party would like to include an Additional Product as a Product under this Agreement, then such Party shall present such Additional Product to the JSC for review.

(b) If the JSC decides to include such Additional Product under this Agreement then such Additional Product shall become a Product under this Agreement and the Parties shall amend this Agreement to reflect [*].

(c) If the JSC decides not to include such Additional Product as a Product under this Agreement, then the exclusivity obligations set forth in Section 2.5 shall continue to apply to such Additional Product, and Pfizer will not have any licenses or other rights from Sangamo with respect to such Additional Product unless and until the JSC later determines to include such Additional Product as a Product under this Agreement.

4.4 Development Responsibilities.

(a) Sangamo Development Responsibilities. As between the Parties, Sangamo shall be responsible (until the IND Transition Date) for and shall use Commercially Reasonable Efforts to conduct the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study. Sangamo is the regulatory sponsor of each of the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study prior to the IND Transition Date, and, subject to Section 5.2, will hold the IND therefor. Sangamo shall perform each of the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study in accordance with GxP and applicable Laws, including applicable guidelines of the International Council on Harmonisation ("**ICH**") to the extent

incorporated into FDA regulations, for investigations involving human subjects in accordance with the then-current protocol therefor, including, under the relevant JSC or JCRC:

(i) providing Pfizer for review and comment any proposed amendments to the protocol for each of the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study;

(ii) providing to Pfizer (i) information and transparency on all aspects of trial conduct and data generation, including Sangamo's oversight of trial conduct by CROs and clinical investigators and providing to Pfizer for review and approval Sangamo's plan for oversight of CROs and clinical investigators in conducting the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study, and (ii) any reports or findings made or received (e.g. audit report) within [*] hours of Sangamo's receipt or identification, followed by written details and a corrective and preventative action plan within [*] days, during the course of the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study;

(iii) providing Pfizer timely access to all data and information at regular intervals upon Pfizer's request, including providing Pfizer parallel data and information review during the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study, including, but not limited to, data outputs prepared for review by the Safety Monitoring Committee, and, subject to Section 4.4(b), using informed consent documents that will allow Sangamo to comply with such obligations (for example, in the context of an audit or for use or reference in a regulatory submission);

(iv) if Pfizer has inquiries or questions related to any such data provided by or on behalf of Sangamo, Sangamo shall provide written responses to said inquiries and/or questions to Pfizer within [*] days or such other time period as may be agreed to by the Parties.

(v) promptly providing Pfizer access to output from study committees, such as the safety monitoring committees, data monitoring committees and other applicable committees;

(vi) including Pfizer in discussions with safety monitoring committees, data monitoring committees and any other adjudication study committees and other advisors to the program; and

(vii) making any necessary amendments to any agreements with any clinical research investigators or other Third Parties conducting or participating in any activities related to the SB-525 Phase I/II Trial, or obtaining any necessary waivers or consents to such agreements, in order to permit Sangamo to comply with its obligations to Pfizer under this Agreement.

In the event that there are obligations on Sangamo regarding the conduct of or data generated from the SB-525 Phase I/II Trial, Sangamo will use its Commercially Reasonable Efforts to make any

necessary amendments to any agreements with any clinical research investigators or other Third Parties conducting or participating in any activities related to the SB-525 Phase I/II Trial, or obtain any necessary waivers or consents to such agreements, in order to permit Sangamo to comply with its obligations to Pfizer under this Agreement.

Upon [*], or as otherwise directed by the JSC, Sangamo shall begin preparation of the Phase I/II Clinical Data Package; Sangamo shall deliver the Phase I/II Clinical Data Package to Pfizer promptly following completion of the Phase I/II Clinical Data Package. Sangamo will cooperate with Pfizer and use Commercially Reasonable Efforts to procure all such study reports and data in a form of sufficient quality and integrity such that all such data and reports will be suitable for submission to Regulatory Authorities for SB-525. As between the Parties, Sangamo will be solely responsible for the assembly and delivery to Pfizer of the Phase I/II Clinical Data Package.

(b) Informed Consent Documents. Sangamo shall provide to Pfizer for Pfizer's review, comment and approval all forms of draft informed consent documents (including any substantive amendments) for the SB-525 Phase I/II Trial or the SB-525 Phase I/II Long-Term Follow-Up Study prior to submission thereof to any institutional review board or independent ethics committee, to the extent not already submitted prior to the Effective Date. All forms of such informed consent documents provided to Pfizer prior to the Effective Date will be deemed approved by Pfizer. Sangamo shall provide to Pfizer a copy of each informed consent document (including any amendment) that has been approved by an institutional review board or independent ethics committee. Sangamo shall use reasonable efforts to amend the informed consent documents for the SB-525 Phase I/II Trial and the SB-525 Phase I/II Long-Term Follow-Up Study within three (3) months after the Effective Date to allow for Pfizer's access to data and information as required under this Agreement, to the extent not already provided for therein.

(c) Other Development Work. Subject to Section 4.4(a), and except for those activities allocated to Sangamo in a Development Plan, Pfizer shall be responsible and shall have the sole authority over (subject to Section 8.1(a)) and control for all Development work, including all other clinical trials (including but not limited to Pivotal Trials), development of clinical assays and conduct of animal studies necessary or useful for conduct of Pivotal Trials, as necessary or useful for seeking Marketing Approval for SB-525 and other Products, if any, in the Field in the Territory.

(d) Development of New Products. For each Product other than SB-525, the JCRC shall prepare a new Development Plan to include the Development work for such Product and submit such new Development Plan to the JSC for review and approval; provided that no Development work may be assigned to Sangamo under the new Development Plan without Sangamo's written consent.

(e) [*]. Notwithstanding [*], Sangamo will [*] and Pfizer shall [*] in each case to the extent [*], including [*] or [*].

4.5 Development Cost. Subject to the reimbursement of excess Development cost provisions set forth in Section 9.2, Sangamo shall be responsible for the costs and expenses it incurs in conducting the SB-525 Phase I/II Trial. Except for the costs and expenses of SB-525

Phase I/II Trial to be borne by Sangamo pursuant to Section 9.2, Pfizer shall be responsible for all costs and expenses of all Development of Products in the Field in the Territory.

4.6 Conduct of Development. Each Party shall conduct its Development work in good scientific manner and in compliance with all applicable Laws, including but not limited to cGMP, GLP and GCP, as well as regulations involving investigations of human subject in compliance with expected standards, as applicable.

4.7 Development Records. Each Party shall maintain, consistent with applicable Law, the requirements of Regulatory Authorities, and its then-current internal policies and practices, and cause its Affiliates, Sublicensees and subcontractors (including their respective employees) to maintain, records and laboratory notebooks of the Development work conducted by it for any Product, including all data and results of such Development work. Such records shall fully and properly reflect all work done and results achieved in the performance of such Development work in good scientific manner appropriate for regulatory and patent purposes.

4.8 Development Reports. Each Party shall keep the other Party reasonably informed as to the progress and results of its and its Affiliates' and Sublicensees' Development activities under this Agreement. Without limiting the foregoing, at each regularly scheduled JCRC meeting prior to the IND Transition Date, each Party shall provide the JCRC with a presentation and thereafter Pfizer shall provide a presentation summarizing the Development activities performed since the last JCRC meeting and the results thereof, and comparing such activities with the Development Plan(s) for such time period. Such presentations shall be at a level of detail reasonably requested by the JCRC and sufficient to enable each Party to determine the other Party's compliance with its diligence obligations pursuant to Section 8.1. The Parties shall discuss the status, progress and results of each Party's Development activities at the JCRC meetings, and each Party shall promptly respond to the JCRC's reasonable questions or requests for additional information raised at the JCRC meetings relating to such Development activities.

4.9 Subcontractors. Each Party may engage subcontractors to perform Development work for Products under this Agreement, provided that Pfizer approves each Sangamo subcontractor in writing, such approval not to be unreasonably withheld, and provided that each subcontractor set forth on **Schedule 4.9** will be deemed approved by Pfizer, and each such subcontractor is bound by written obligations of confidentiality and non-use consistent with this Agreement and has agreed to assign to such Party (or exclusively license to such Party, with the right to grant sublicenses) all inventions or other intellectual properties made by such subcontractor in the course of performing such subcontracted work that specifically relate to the Products or their use, Manufacture or sale. Each Party shall remain responsible for providing oversight of subcontractors as well as remain responsible for any obligations that have been delegated or subcontracted to any subcontractor, and shall be responsible for the performance of its subcontractors. If any subcontractor engaged by Sangamo is in material breach of any of its responsibilities related to the performance of the subcontracted work for one or more Products under this Agreement, including, but not limited to, compliance with GxP, and fails to cure such material breach within the applicable cure period under the applicable agreement with the subcontractor, Pfizer may, at its sole discretion, require Sangamo to promptly terminate its agreement with said subcontractor (but only with respect to the work being performed in

connection with a Product) and the Parties shall promptly and in good faith determine a transition plan for the Development of such Product(s).

4.10 Adverse Events and Safety Reporting.

(a) Adverse Events. Sangamo will report to the JCRC on a [*] basis, in a format to be reasonably agreed by the Parties, all Adverse Events or other safety data, including all investigator safety letters or other safety information, in each case related to the SB-525 Phase I/II Trial or the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates) that Sangamo generates, receives or otherwise becomes aware of during the preceding [*], including reports received from a clinical research investigator, CRO or other Third Party, including any events that require reporting to any Regulatory Authority or any trial conduct events that may be related to study conduct or safety reporting that raise questions about safety to clinical trial subjects, that (i) Pfizer may be required to report to any Regulatory Authority in connection with its Development, Manufacturing or Commercialization of any Product or (ii) otherwise indicates or signals that any Product has or may have an unacceptable risk-benefit profile. Any new reports made to any Regulatory Authority since the last JCRC meeting shall be provided to the JCRC in advance of their next meeting. In addition to such quarterly reports, Sangamo will notify Pfizer within [*] after becoming aware of any of the following events related to the SB-525 Phase I/II Trial or the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent being conducted by or on behalf of Sangamo or its Affiliates), and will provide Pfizer with copies of any reports of such events submitted to any Regulatory Authority, within [*] of such submissions, including all related correspondence, promptly after submission or receipt thereof: (i) an unexpected suspected serious Adverse Event (SUSAR Event), (ii) [*], (iii) [*], and (iv) any special safety concern resulting in changes to any informed consent form. Within [*] after Sangamo provides Pfizer with such report, each Party's medical monitors shall meet to discuss such report. The Parties will cooperate in connection with the transfer of such data, results and information to Pfizer.

(b) Pharmacovigilance Agreement. In addition, upon Pfizer's request, the Parties will enter into a separate pharmacovigilance agreement setting forth the responsibilities and procedures for collecting, sharing and reporting to applicable Regulatory Authorities from and after the IND Transition Date information regarding Adverse Events and other safety information that is or may be associated with any Product, including so as to permit each Party to comply with Applicable Laws and the requirements of Regulatory Authorities (the "**Pharmacovigilance Agreement**"); provided that, for clarity, to the extent there is any conflict between the terms and conditions of the Pharmacovigilance Agreement and this Agreement with respect to the matters covered by such Pharmacovigilance Agreement, the Pharmacovigilance Agreement will govern and control.

4.11 Access to Information. Sangamo shall provide to Pfizer from time-to-time and at any time upon Pfizer's request, all information relating to the SB-525 Phase I/II Trial and, to the extent conducted by or on behalf of Sangamo or its Affiliates, the SB-525 Phase I/II Long-Term Follow-Up Study.

(a) Documentation and Access. Without limiting the foregoing, upon Pfizer's request, Sangamo will promptly provide Pfizer with:

(i) to the extent in Sangamo's possession or control, access to, or copies of, the [*] for the SB-525 Phase I/II Trial;

(ii) to the extent in Sangamo's possession or control, access to, or copies of, information regarding [*], including [*] in connection with the conduct of the SB-525 Phase I/II Trial, the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent conducted by or on behalf of Sangamo or its Affiliates), and other supporting information, such that Pfizer may:

(1) [*] in order to [*];

(2) [*]; and

(3) [*] during the SB-525 Phase I/II Trial or the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent conducted by, on behalf of Sangamo or its Affiliates) conduct that could [*];

such information to include but not be limited to [*], and, for each of the foregoing, [*]; and

(iii) reasonable access, during normal business hours (provided that reasonable advance notice is given to Sangamo) to Sangamo personnel which were or are involved in the use, discovery or development of the applicable Licensed Technology.

(b) Audit. Sangamo will, and will cause its Affiliates to, and will use good faith efforts to cause its subcontractors, CMOs and CROs to, permit Pfizer to conduct relevant audits regarding Development and Manufacturing activities to ensure GxP compliance, and will use good faith efforts to procure access for Pfizer to any manufacturer (including for purposes of conducting any applicable GMP audits of any manufacturer of any Product), subcontractors, CMO, CRO, sponsor or clinical trial site (including, without limitation, source document review) involved in either the SB-525 Phase I/II Trial or the SB-525 Phase I/II Long-Term Follow-Up Study (to the extent conducted by or on behalf of Sangamo or its Affiliates), including any subcontractor facilities and any Third Party involved in any SB-525 Phase I/II Trial or SB-525 Phase I/II Long-Term Follow-Up Study (to the extent conducted by or on behalf of Sangamo or its Affiliates) conduct, data or sample analysis, so that Pfizer may conduct an audit (independently or as a co-auditor alongside Sangamo or Sangamo's auditor(s)) regarding Development and Manufacturing activities to ensure GxP compliance; for example, upon [*], Pfizer may audit Sangamo's CRO contracted to perform the SB-525 Phase I/II Trial [*] to confirm that the [*], including but not limited to [*]. All trial related documents (such as informed consent documents,

clinical study agreements, other Third Party agreements, clinical trial applications, etc.) will include appropriate language to permit such audits or, to the extent any informed consent documents do not include such language as of the Effective Date, Sangamo shall use reasonable efforts to amend such documents to include such language within [*] after the Effective Date. Sangamo will notify Pfizer within [*] of Sangamo's or its Affiliates actual or suspected knowledge of the occurrence of any quality event: (i) that [*]; and/or (ii) [*], including any [*]. Such notice shall be promptly followed by written details and a corrective and preventative action plan within [*]. Sangamo will provide or cause to provide Pfizer with prompt access to any and all audit reports and deviation documentation and responses to any findings contained therein as well as corrective and preventative action plan(s) to address each finding.

(c) Data Sets. Upon Pfizer's request, and without limiting the right for Pfizer to receive information under Section 2.10 or Section 6.3(b), Sangamo will, and will cause its Affiliates or Third Parties to, provide Pfizer with all information in Sangamo's possession or control, and will procure access for Pfizer, to all data arising from the SB-525 Phase I/II Trial and SB-525 Phase I/II Long-Term Follow-Up Study (to the extent conducted by, on behalf of Sangamo or its Affiliates), including provision of the following to Pfizer by Sangamo: [*]

(d) Test Data Transfer. Upon Pfizer's request, Sangamo and any vendors participating in the trial who have any clinical trial data (such as CROs, central laboratories, other e-data vendors, etc.) will transfer a set of test data to Pfizer or Pfizer's designee in advance of within ten (10) Business days before the date on which the a request has been submitted to the applicable Regulatory Authority for the first EOP2 Meeting in order for Pfizer to perform certain qualification to determine if (a) the transmission meets Pfizer requirements in content and process and (b) the data will load successfully into the target Pfizer database. Sangamo will reasonably cooperate with Pfizer if changes are needed in the data formatting or transmission process to ensure data quality and usability. Sangamo will transfer additional sets of test data if needed after such changes are made and again if there are any changes in the SB-525 Phase I/II Trial variables or data collection tools during the SB-525 Phase I/II Trial. A test data set will consist of complete dummy data for at least five (5) hypothetical or actual study subjects.

4.12 Materials. To facilitate the performance of activities under this Agreement, either Party may provide to the other Party certain biological materials or chemical compounds owned by or licensed to the supplying Party for use by the other Party (such materials or compounds and any progeny and derivatives thereof, collectively, "**Materials**"), including those materials to be provided by Sangamo to Pfizer as described in the Manufacturing Tech Transfer Plan. All such Materials shall remain the sole property of the supplying Party, shall be used by the receiving Party solely to perform its obligations or to exercise its rights under this Agreement and, shall not be used or delivered to or for the benefit of any Third Party without the prior written consent of the supplying Party, and shall not be used in research or testing involving human subjects, unless expressly agreed. The Materials supplied under this Section 4.12 are supplied "as is" and must be used with prudence and appropriate caution in any experimental work, since not all of their characteristics may be known.

ARTICLE 5
REGULATORY

5.1 General. Subject to the terms and conditions of this Agreement and as outlined in this Article 5 below, the Parties shall collaborate with respect to the regulatory activities related to Products under the direction of the JCRC and pursuant to the Development Plans.

5.2 Regulatory Responsibilities. Pfizer shall be solely responsible for all regulatory activities for SB-525 and other Products outside the U.S., as Sangamo's authorized agent or representative to the ex-US Regulatory Authority. Prior to the Effective Date, Sangamo filed an IND for SB-525. Sangamo shall retain ownership of the IND for SB-525, and shall be responsible for all regulatory activities for SB-525 in the U.S., in each case through the IND Transition Date, which will not occur prior to completion of the last to occur of the EOP2 Meetings, for clarity with both the FDA and EMA. Within [*] after Pfizer's written request, such request to be made at any time during the period between [*], Sangamo shall transfer the IND for SB-525 to Pfizer, and thereafter Pfizer shall be solely responsible for all regulatory activities for SB-525 in the Territory (including conduct of the Pivotal Trial for SB-525 and the preparation and filing of the SB-525 BLAs) at Pfizer's own cost and expense (the date of such IND transfer, the "**IND Transition Date**"). Upon the IND Transition Date, Pfizer shall assume all responsibilities for the SB-525 Phase I/II Trial and SB-525 Phase I/II Long-Term Follow-Up Study, including all obligations under agreements with clinical trial sites, CROs and other service providers; the Parties shall cooperate to ensure a smooth transition of such responsibilities and to assign or otherwise transfer to Pfizer all such agreements. If any Additional Product is included as a Product under this Agreement pursuant to Section 4.3, the JCRC shall allocate regulatory responsibilities for such Product consistent with the allocation of Development work in the updated or amended Development Plan; provided that no regulatory work for such Product may be assigned to Sangamo without Sangamo's written consent. Pfizer will own all BLAs, Marketing Approvals, and Pricing Approvals for any Product.

5.3 Cooperation. Each Party shall cooperate reasonably with the other Party with respect to key regulatory activities relating to any Product, shall provide the other Party with all reasonable assistance in the preparation of Regulatory Materials for any Product, and, through JCRC meetings, shall keep the other Party reasonably and timely informed of the status of its preparation and submission of Regulatory Materials for any Product and provide the JCRC with a summary of the outcome of the Regulatory Authorities' review of such Regulatory Materials. Each Party shall consult with the other Party through the JCRC regarding regulatory matters pertaining to any Product. Prior to the IND Transition Date, the Parties shall work jointly in preparation of key Regulatory Materials for planned interactions and each Party shall have the right to review and comment on drafts of such Regulatory Materials, provided that such review and comment shall not delay the submission of any Regulatory Materials. After the IND Transition Date, the Parties shall work through the JSC/JCRC for information exchange and understanding of Regulatory Materials and outcomes.

5.4 Meetings with Regulatory Authorities Prior to IND Transfer. At each regularly scheduled JCRC meeting before the IND Transition Date, each Party shall provide the other Party with a list and schedule of any in-person meeting or teleconference with any

Regulatory Authority (or related advisory committees) planned and written outcomes from any such meetings previously conducted. In addition, each Party shall notify the other Party as soon as reasonably possible if such Party becomes aware of any additional such meetings or teleconferences that become scheduled prior to the next JCRC meeting. The other Party shall have the right, but not the obligation, to provide input in preparation of materials for all such meetings and teleconferences and the right, but not the obligation, to have its representatives attend (but, unless otherwise requested by such Party, not participate in) such meetings and teleconferences.

5.5 End of Phase II Meetings. Following the demonstration of Clinical Efficacy or earlier as determined by the JSC, the Parties will arrange for end-of-phase 2 meetings (as described in 21 CFR 312.47(b) or equivalent foreign regulations) with each of the FDA and EMA (each, an "**EOP2 Meeting**"). The objective of each EOP2 Meeting will be to discuss and confirm the clinical or CMC plans for the further Development of SB-525. The Parties shall jointly prepare for each EOP2 Meeting relating to SB-525, including (a) formulating the plan for the further Development of SB-525 and the regulatory strategy and pathway to obtain Marketing Approval for SB-525; and (b) the review of any jointly-prepared correspondences and filings with the Regulatory Authorities in connection with such EOP2 Meeting. Notwithstanding the foregoing, Pfizer (if necessary, due to Sangamo being the sponsor under the IND at such time, as Sangamo's authorized representative or agent) shall be solely responsible for the conduct of all EOP2 Meetings, provided, however, that a reasonable number of representatives of both Parties shall participate in the EOP2 Meetings for SB-525.

5.6 Inspections. Each Party shall allow the Regulatory Authorities having jurisdiction or any other group with a legal or contractual interest in the study (such as IRBs, vendors or CROs) to conduct inspections of such Party, its Affiliates, Sublicensees or subcontractors (including clinical trial sites) relating to the Manufacture and Development work performed by or on behalf of such Party under this Agreement, and shall ensure that such Affiliates, Sublicensees and subcontractors permit such inspections, including, without limitation, Sangamo's subcontractor PSI. In addition, during the SB-525 Phase I/II Trial prior to the IND Transition Date, Sangamo shall (i) permit Pfizer to conduct a GCP pre-inspection of Sangamo, its Affiliates, Sublicensees, and subcontractors (as contractually permitted), and (ii) promptly notify Pfizer of any inspection or action of which it becomes aware and shall provide Pfizer with copies of all materials, correspondence, statements, forms and records received or generated pursuant to any such inspection; and Pfizer shall have the right to be present at any such inspections and shall have the opportunity to provide, review, and comment on any responses that may be required, in each case to the extent permitted under applicable Law and the terms of Sangamo's agreement with the applicable Third Party.

5.7 Product Recalls. In the event that any Regulatory Authority issues or requests a recall or takes similar action in connection with any Product, or in the event a Party reasonably believes that an event, incident or circumstance has occurred that may result in the need for a voluntary or mandatory recall, market withdrawal or other corrective action regarding any Product, such Party shall promptly advise the other Party thereof by telephone or facsimile. Pfizer shall decide and have control over whether to conduct a recall or market withdrawal (except in the event of a recall or market withdrawal mandated by applicable Laws or Regulatory Authority, in which case it shall be required) or to take other corrective action in any country and the manner in

which any such recall, market withdrawal or corrective action shall be conducted, and Pfizer shall be solely responsible for the costs and expenses of such recall, market withdrawal or corrective action; provided that Pfizer shall notify Sangamo prior to making any public disclosure of the recall, market withdrawal or corrective action and shall keep Sangamo regularly informed regarding any such recall, market withdrawal or corrective action.

ARTICLE 6
MANUFACTURE AND SUPPLY

6.1 General. The Manufacture and supply of each Product shall be overseen and coordinated by the JMC. Each Party shall keep the JMC reasonably informed on the Manufacture activities (including Manufacture process development) performed by such Party under this Agreement and the Parties shall review and discuss Manufacture- and supply-related issues at JMC meetings. Each Party shall have the opportunity to provide input regarding the Manufacture and supply of Products at the JMC meetings.

6.2 Sangamo Manufacture Activities.

(a) As between the Parties, Sangamo shall, either by itself or through a contract manufacturer ("**CMO**"), be responsible for the Manufacture and supply of SB-525 for use in the SB-525 Phase I/II Trial, including stability and QC/QA testing, product release and distribution and other ancillary Manufacture activities relating to such SB-525 supply. Additionally, Sangamo shall be responsible for contracting with and overseeing a CMO to conduct manufacturing process development activities in preparation for the manufacture of SB-525 for use in the Pivotal Trial to be conducted in accordance with the form of statement of work attached hereto as **Exhibit H**. The Parties acknowledge and agree (i) that, as of the Effective Date, [*], (ii) that, [*], and (iii) that [*], provided that [*] to the extent that (x) [*] or as otherwise agreed to by the Parties [*], (y) [*] after the Effective Date, [*] or (z) [*] or otherwise [*] and [*].

(b) Upon Pfizer's reasonable request, Pfizer may participate and provide reasonable assistance in Sangamo's (and its CMO's) Manufacture and supply of SB-525 for the SB-525 Phase I/II Trial;

(c) Subject to the reimbursement of excess cost as set forth in Section 9.2, Sangamo shall be responsible for the cost and expenses it incurs in performing the activities set forth in Sections 6.2(a) above ("**Sangamo Manufacture Activities**").

6.3 Pfizer Manufacture Activities.

(a) As between the Parties, except for the SB-525 supply for SB-525 Phase I/II Trial and process development activities under Section 6.2(a), Pfizer shall, either itself or through a CMO (which may be, in Pfizer's sole discretion, Sangamo's CMO for SB-525), be responsible for the Manufacture and supply of Products for all Development and Commercialization use, including process development, scale up, stability and QC/QA testing, development of assays for QC/QA and release, product release and distribution and other ancillary Manufacture activities, all at Pfizer's own cost and expense. Notwithstanding anything to the contrary in this Agreement, Pfizer shall have no obligation to apply any particular Pfizer Know-How, Pfizer Patent Right or

other technology owned by Pfizer or which Pfizer has the right to use in connection with the Manufacture of any Product hereunder or in the development of any process for the Manufacture of any Product hereunder.

(b) To the extent any Licensed Know-How that is being used by Sangamo (or its CMO) in the Manufacture of SB-525 as of the Effective Date is in Sangamo's (or its CMO's) possession, Sangamo shall (either directly by itself or through its CMO) make such Licensed Know-How available to Pfizer. Upon Pfizer's reasonable request, Sangamo shall provide Pfizer (or at additional cost, its CMO, if not Sangamo's CMO for SB-525) with reasonable technical assistance and information, which shall include the provision of technical assistance and information identified in **Exhibit F** (Manufacturing Tech Transfer Plan), to enable Pfizer (or its CMO) to understand and utilize such Licensed Know-How in the Manufacture of SB-525. The Parties shall cooperate to ensure a smooth and orderly transition hereunder

(c) Pfizer shall keep Sangamo informed on its Manufacture and supply of the Products, including updates and disclosure of Know-How in Pfizer Manufacturing Technology during each JMC meeting, and at each such JMC meeting Pfizer shall provide Sangamo with copies of all reports (including study reports) provided to Pfizer by its CMO(s) relating to the Manufacture and supply of the Products; provided that during the [*] period after the JMC is disbanded upon First Commercial Sale, Pfizer shall provide all such updates on a [*] basis, disclosures and reports directly to Sangamo. Pfizer shall also provide Sangamo with reasonable opportunity to observe (at Sangamo's discretion and sole cost) Pfizer's manufacturing team and/or Pfizer's CMO(s) performing Manufacturing activities, including process development, QC/QA and release assay development, scale up and the preparation of manufacture related Regulatory Materials. All information disclosed to or otherwise obtained by Sangamo pursuant to this Section 6.3(c) shall be deemed to be Pfizer's Confidential Information, provided, however, that, without expanding the rights granted to Sangamo under Section 2.2(a)(ii), Sangamo shall have the right to use such information in making decisions about manufacturing processes that Sangamo wishes to use for the manufacture of Sangamo's other products.

ARTICLE 7
COMMERCIALIZATION

7.1 General. Subject to the terms and conditions of this Agreement, Pfizer shall be solely responsible, at its sole cost and expense, for the Commercialization of Products in the Field throughout the Territory, including: (a) developing and executing a commercial launch and pre-launch plan for each Product; (b) negotiating with applicable Governmental Authorities regarding the price and reimbursement status of each Product; (c) marketing and promotion of Products; (d) booking sales and distribution of Products and performance of related services; (e) handling all aspects of Product order processing, invoicing and collection, inventory and receivables; (f) providing customer support for Products, including handling medical queries and performing other related functions; and (g) ensuring its practices and procedures relating to the marketing and promotion of the Products comply with applicable Laws.

7.2 Commercialization Plan and Reports. At least [*] prior to Pfizer's anticipated First Commercial Sale of a Product anywhere in the Territory, and on an [*] thereafter, Pfizer shall

provide Sangamo with a [*]. After First Commercial Sale, Pfizer shall update Sangamo [*] regarding its Commercialization activities with respect to Products. Each such update shall be in a form to be agreed by the Parties and shall summarize Pfizer's, its Affiliates' and its Sublicensees' major Commercialization activities with respect to Products, covering subject matter at a level of detail reasonably required and sufficient to enable Sangamo to verify Pfizer's compliance with its diligence obligations under Section 8.2.

7.3 Trademarks. Pfizer shall have the right to brand Products using Trademarks it determines appropriate, which may vary by country or within a country. Pfizer shall own all rights in such Trademarks and shall register and maintain such Trademarks in the countries and regions that it determines reasonably necessary, at Pfizer's cost and expense. In addition to such Trademarks, where permitted by applicable Laws, Pfizer shall include Sangamo's logo and relevant Trademarks on all Product labels, packages, inserts and marketing materials to indicate that the Products are licensed from Sangamo and shall use its Commercially Reasonable Efforts to obtain any required approvals from the relevant Governmental Authorities to include such logo and Trademarks on the foregoing. Notwithstanding the foregoing, in the event there is a Change of Control of Sangamo, the previous sentence shall no longer apply.

ARTICLE 8
DILIGENCE

8.1 Development Diligence.

(a) Pfizer.

(i) Pfizer shall use Commercially Reasonable Efforts to Develop, seek Marketing Approval, and where necessary, Pricing Approval for [*]; provided that should Pfizer terminate this Agreement pursuant to Section 12.2(a) with respect to (A) [*], then in lieu of using Commercially Reasonable Efforts in the U.S., Pfizer shall use Commercially Reasonable Efforts to Develop, seek Marketing Approval, and where necessary, Pricing Approval for [*] in one non-terminated country in [*], (B) [*], then in lieu of using Commercially Reasonable Efforts in [*] in one non-terminated country in [*], or (C) [*], then in lieu of using Commercially Reasonable Efforts in the [*], Pfizer shall use Commercially Reasonable Efforts to Develop, seek Marketing Approval, and where necessary, Pricing Approval for [*] in one non-terminated country in [*].

(ii) Should Pfizer terminate this Agreement with respect to SB-525 in [*] pursuant to Section 12.2(a), then in lieu of using Commercially Reasonable Efforts with respect to [*], Pfizer shall use Commercially Reasonable Efforts to Develop, seek Marketing Approval, and where necessary, Pricing Approval for [*] in [*], provided that should Pfizer subsequently terminate this Agreement with respect to [*] in [*] pursuant to Section 12.2(a), the terms of Section 8.1(a)(i) will apply to [*].

(iii) Pfizer will have diligence obligations with respect to the Development of Additional Products and seeking Marketing Approval for [*].

(iv) Pfizer will [*] the Development diligence obligations set forth in, or directly referenced in, subsections (i)-(iii) above.

(b) Sangamo. Sangamo shall use Commercially Reasonable Efforts to complete the SB-525 Phase I/II Trial and Sangamo Manufacturing Activities in accordance with the Development Plan. For clarity, Sangamo shall [*].

8.2 Commercial Diligence. Pfizer shall use Commercially Reasonable Efforts to Commercialize each Product [*] in which it receives Marketing Approval, provided that should Pfizer terminate this Agreement pursuant to Section 12.2(a) with respect to a Product in [*], then Pfizer shall use Commercially Reasonable Efforts to Commercialize such Product in [*]. [*] diligence obligations with respect to the Commercialization of Products under this Agreement.

8.3 Exceptions to Diligence Obligations. Notwithstanding any provisions of this Agreement to the contrary, Pfizer will be relieved of its Pfizer Diligence Obligations to the extent that Sangamo failed to fulfill its Development or other obligations (including, but not limited to, technology transfer pursuant to Section 2.10 or Section 6.3(b)) under the Agreement and such failure prevents Pfizer from fulfilling such Pfizer Diligence Obligations.

8.4 [*] Pfizer Diligence Obligations. Without in any way [*] obligations under this Agreement, [*] described in Section [*] Pfizer Diligence Obligations under this Agreement with respect to activities that are [*]. For the avoidance of doubt, the provisions of this Section 8.4 are intended only [*]. [*] the Pfizer Diligence Obligations [*] set forth in this Section 8.4, above, provided that Pfizer [*].

8.5 Assertion of Pfizer Diligence Obligation Claims. If Sangamo becomes aware of facts that form a reasonable basis to allege that Pfizer has failed to meet any Pfizer Diligence Obligation, then Sangamo will promptly notify Pfizer in writing of such potential alleged performance failure (each such potential alleged performance failure, a "**Diligence Issue**"). Promptly upon Pfizer's receipt of any notice of a Diligence Issue pursuant to this Section 8.5, the Pfizer Alliance Manager will contact the Sangamo Alliance Manager to discuss the specific nature of such Diligence Issue and seek to identify an appropriate corrective course of action. If, no later than [*] days after Pfizer's receipt of such a notice, (a) the Parties have not reached consensus regarding whether Pfizer has failed to satisfy its obligations pursuant to Section 8.1(a) or Section 8.2 and (b) the Parties' respective Alliance Managers have not agreed upon an appropriate corrective course of action for such Diligence Issue, then at Sangamo's request such Diligence Issue will be escalated and resolved pursuant to the dispute resolution provisions set forth in Section 16.6. If Sangamo fails to notify Pfizer of a Diligence Issue pursuant to this Section 8.5 within [*] days after the date that Sangamo first discovers such Diligence Issue, then [*] with respect to such Diligence Issue.

8.6 Remedies for Breach of Pfizer Diligence Obligations. If Pfizer materially breaches any Pfizer Diligence Obligation and fails to remedy such breach in accordance with Section 12.2(b), then Sangamo may, in its sole discretion, elect to either (a) terminate this

Agreement pursuant to the provisions of Section 12.2(b) on a Product-by-Product and country-by-country basis, but only in the country in the Territory in which the material breach occurred or (b) convert any exclusive license or sublicense granted to Pfizer under this Agreement with respect to a Product in a given country in the Territory into a non-exclusive license or sublicense, as applicable; provided that upon any such termination, Pfizer shall have the diligence obligations set forth in Sections 8.1(a) and 8.2 as if Pfizer had terminated this Agreement with respect to the applicable Product and country(ies) except that if [*], Pfizer shall [*] by notice to Sangamo within [*] after the effectiveness of such termination.

8.7 Performance by Pfizer's Affiliates or Sublicensees. For avoidance of doubt, any actions taken by Pfizer's Affiliates or Sublicensees (or their respective subcontractors) under this Agreement shall be treated as actions taken by Pfizer in regard to satisfaction of the requirements of this Article 8.

8.8 Other Pfizer Programs. Sangamo understands and acknowledges that Pfizer may have present or future initiatives or opportunities, including initiatives or opportunities with its Affiliates or Third Parties, involving products, programs, technologies or processes that are similar to, and in some instances may compete with, a Product, program, technology or process covered by this Agreement. Sangamo acknowledges and agrees that except for Section 2.5 (which prohibits the Parties from pursuing Competing Programs during the Exclusivity Period), nothing in this Agreement will be construed as a representation, warranty, covenant or inference that Pfizer will not itself Develop, Manufacture or Commercialize or enter into business relationships with one or more of its Affiliates or Third Parties to develop, Manufacture or Commercialize products, programs, technologies or processes that are similar to or that may compete with any Product, program, technology or process covered by this Agreement, provided that, for clarity, Pfizer will not use Sangamo's Confidential Information in breach of this Agreement, including in the course of or to further the development, Manufacture or Commercialization of any products, programs, technologies or processes that are similar to or that may compete with any Product.

ARTICLE 9
FINANCIAL PROVISIONS

9.1 Upfront Payment. Within [*] Business Days after the Effective Date, Pfizer shall pay to Sangamo a one-time, non-refundable, non-creditable upfront payment of [*]; provided, however, that the Parties hereby acknowledge that [*] of said [*] shall be [*] subject to the instructions set forth in Section 4 of Exhibit G. Pfizer shall [*].

9.2 Reimbursement of Sangamo Costs.

(a) Sangamo shall keep Pfizer reasonably informed of (i) the costs (both internal and external (including Third Party processing charges associated with external costs, such as procurement and accounts payable expenses)) that Sangamo incurs or has incurred, after [*] and prior to the IND Transition Date, with respect to the SB-525 Phase I/II Clinical Trial or other non-manufacturing activities allocated to Sangamo under the SB-525 Development Plan, in each case that are within the budget therefor set forth in the SB-525 Development Plan and (ii) Manufacturing Costs that Sangamo incurs or has incurred after [*] with respect to performing

Sangamo Manufacture Activities that are within the budget therefor set forth in the Development Plan (both (i) and (ii), "**Sangamo Initial Costs**"). All internal Sangamo Initial Costs shall be calculated at the then applicable FTE Rate.

(b) Pfizer shall reimburse Sangamo for Sangamo Initial Costs as follows:

(i) Once Sangamo has incurred Sangamo Initial Costs equal to [*] Dollars ($[*], the "**Cap**"), if such costs include at least [*] of internal Sangamo Initial Costs, then Pfizer will reimburse Sangamo for [*] of all additional external Sangamo Initial Costs and [*] of all additional internal Sangamo Initial Costs;

(ii) Once Sangamo has incurred Sangamo Initial Costs equal to the Cap, if the portion of such costs that are internal Sangamo Initial Costs is less than [*], then Pfizer will reimburse Sangamo for [*] of all additional internal and external Sangamo Initial Costs until Sangamo has incurred [*] of internal Sangamo Initial Costs, after which Pfizer will reimburse Sangamo as provided in (i) above.

(iii) Once Sangamo has incurred internal Sangamo Initial Costs equal to [*], if Sangamo's total internal and external Sangamo Initial Costs have not yet reached the Cap, then (A) Sangamo will pay [*] of all additional internal Sangamo Initial Costs, with [*] of such additional internal Sangamo Initial Costs being applied toward the Cap, (B) [*] of all additional external Sangamo Initial Costs will be applied to the Cap, and (C) once the Cap is reached, Pfizer will reimburse as provided in (i) above.

For clarity, Pfizer will not reimburse Sangamo Initial Costs until (a) Sangamo has incurred Sangamo Initial Costs above the Cap or (b) Sangamo has incurred [*] of internal Sangamo Initial Costs, whichever happens first.

(c) If the Development Plan is modified after the Effective Date, then (i) all internal and external costs that Sangamo incurs to the extent they are on account of such modification of the Development Plan will be considered "**Modified Sangamo Costs**", (ii) all Modified Sangamo Costs will count towards the Cap (if it has not yet been reached) as if they were Sangamo Initial Costs, and (iii) notwithstanding the limitations on reimbursement of internal Sangamo Initial Costs set forth in Section 9.2(b), Pfizer will fully reimburse Sangamo for all Modified Sangamo Costs incurred after the Cap has been met.

(d) Within [*] days after the end of each Pfizer Quarter during which Sangamo has conducted any Development work for the SB-525 Phase I/II Clinical Trial and/or any Sangamo Manufacture Activities, Sangamo shall provide Pfizer with (i) a reasonably detailed report setting forth the Sangamo Initial Costs and Modified Sangamo Costs that Sangamo incurred during such Pfizer Quarter, said report to include reasonable supporting documentation evidencing the incurrence of expenses covered by such invoice and (ii) an invoice for the amount of such Sangamo Initial Costs and Modified Sangamo Costs for which Pfizer is obligated to reimburse Sangamo pursuant to Section 9.2(b) or 9.2(c). Pfizer shall pay such invoiced amount within [*] days of receipt. In addition, within [*] Business Days following the start of each Pfizer Quarter, Sangamo will use reasonable efforts to provide Pfizer with a good faith, non-binding estimate of the Sangamo Initial Costs and Modified Sangamo Costs to accrue for the Pfizer Quarter.

9.3 Intentionally Omitted

9.4 Development Milestone Payments.

(a) Development Milestones. Subject to the remainder of this Section 9.4, Pfizer shall pay to Sangamo the non-refundable, non-creditable payments set forth in the table below upon the first occurrence of the applicable event listed below for [*] Products (whether SB-525 or other Product) to achieve such event (whether by Sangamo or its Affiliates for Milestone Event #1 for SB-525 or by Pfizer and its respective Affiliates or Sublicensees for all other Milestone Events):

Milestone Event	Milestone Payment for SB-525	Milestone Payment for Products other than SB-525
[*]	[*]	[*]

(i) For milestone #7, "[*]" means that, at the time in question, the applicable Product [*]; such milestone shall be paid [*]. For clarity, [*] the applicable Product [*] For example, [*].

(ii) The clinical Milestone Events set forth above (i.e., Milestone Events #[*]) shall be deemed achieved and the corresponding Milestone Payments payable, if not already achieved and paid, upon the achievement of any Milestone Event with a higher number. Milestone Events for [*] (i.e., Milestone Events #[*]) shall be deemed achieved and the corresponding milestone payments payable, if not already achieved and paid, upon the achievement of the [*] in the corresponding country or territory (i.e., milestone event #[*], as applicable). Without limiting the foregoing, the Milestone Event #[*] shall be paid no later than the due date for the Milestone Event #[*].

(iii) Each of the Milestone Payments #[*] set forth above shall be payable either (A) [*] or (B) [*], except that Milestone Payment #[*], and Milestone Payment #[*]. If the [*], and if [*] achieves a Milestone Event that [*] and for which [*], then [*] on account of the achievement of such Milestone Event [*].

(iv) The maximum amount payable under this Section 9.4 is (A) for SB-525, two hundred ninety five million Dollars ($295,000,000), (B) for a Product which is not SB-525, one hundred seventy-five million Dollars ($175,000,000) ([*] if [*]) and (C) for all Products, four hundred seventy million Dollars ($470,000,000).

(b) Notice and Payment. The Party that achieves any milestone event set forth in Section 9.4(a) shall notify the other Party in writing within [*] Business Days after the achievement of any Milestone Event, and Pfizer shall pay to Sangamo the applicable Milestone Payment within [*] days after receipt from Sangamo of a proper invoice pursuant to Section 9.7 for such Milestone Event. If Sangamo believes any Milestone Event has occurred and has not

received a written notice of same from Pfizer, it may so notify Pfizer in writing and invoice Pfizer for the corresponding Milestone Payment, and in that case shall provide to Pfizer documentation or other information that supports its belief. Any dispute under this Section 9.4 that relates to whether or not a Milestone Event has occurred shall be resolved in accordance with Section 16.6.

9.5 Royalty Payments.

(a) Royalty Rates. Subject to the remainder of this Section 9.5, Pfizer shall pay Sangamo non-refundable, non-creditable (subject to any refund of overpaid amounts pursuant to Section 9.9) royalties on a tiered marginal royalty rate basis as set forth below (the "**Marginal Royalty Rates**") based on the annual aggregate Territory-wide Net Sales of each Product, on a Product-by-Product basis, during each Pfizer Year of the applicable Royalty Term for each Product.

For the Portion of Annual Net Sales of each Product in the Territory		**Marginal Royalty Rate**
Less than or equal to:	$[*]	[*]%
Greater than: but less than or equal to:	$[*] $[*]	[*]%
Greater than	$[*]	[*]%

Each Marginal Royalty Rate set forth in the table above will apply only to that portion of the Net Sales of a given Product in the Territory during a given Pfizer Year that falls within the indicated range. An example calculation of royalties under this Section 9.5(a) is set forth below.

By way of example only, if (i) Pfizer, its Affiliates or its Sublicensees sell two Products in the Territory during a given Pfizer Year, (ii) Net Sales of the first Product in the Territory during such Pfizer Year are $[*] and (iii) Net Sales of the second Product in the Territory during such Pfizer Year are $[*], then the royalties payable by Pfizer under this Section 9.5(a) during such Pfizer Year would be calculated as follows:

Royalty for first Product
[*]

Royalty for second Product
[*]

Total royalty payable for applicable Pfizer Year
[*]

(b) Royalty Term. Pfizer's royalty payment obligations under Section 9.5(a) shall expire, on a Product-by-Product and country-by-country basis, upon the latest of: (i) the expiration of the period during which the Manufacture, approved use, sale, offer for sale or

importation of such Product in such country would absent a license or ownership interest, infringe a Valid Claim in the Licensed Technology in such country (considering Valid Claims of pending patent applications to be issued with the then-pending claims); (ii) the expiration of all Regulatory Exclusivity for such Product in such country; and (iii) [*] years after the First Commercial Sale of such Product in any country (the "**Royalty Term**"). For the avoidance of doubt, the Royalty Term for a given Product in a given country in the Territory (A) will not begin until the First Commercial Sale of such Product in such country and (B) if not previously expired, will expire immediately upon termination of this Agreement.

(c) Fully Paid-Up, Royalty Free License. Following expiration of the Royalty Term for any Product in a given country, no further royalties will be payable in respect of sales of such Product in such country and, thereafter the license granted to Pfizer under Section 2.1(a)(i) with respect to such Product in such country will automatically become fully paid-up, perpetual, irrevocable and royalty-free.

(d) Royalty Reductions. The following adjustments will be made, on a Product-by-Product and country-by-country basis, to the royalties payable pursuant to Section 9.5(a).

(i) Biosimilar Entry. For any Pfizer Quarter in the applicable Royalty Term for a Product in a country in the Territory during which (1) a Biosimilar Product with respect to such Product is being sold in such country; and (2) the unit volume of such Biosimilar Product sold in such country in such Pfizer Quarter exceeds [*] of the combined unit volume of such Product and such Biosimilar Product sold in such country in such Pfizer Quarter, subject to Section 9.5(d)(vi), the royalties payable on Net Sales of such Product in such country in such Pfizer Quarter would be reduced by [*] of the amounts of royalties otherwise payable on such Net Sales pursuant to Section 9.5(a) for the remainder of the applicable Royalty Term, such reduction to be prorated appropriately in aggregate for the then-current Pfizer Quarter. The unit volume of the Product and Biosimilar Product shall be calculated using a mutually acceptable method and using market share data provided by a reputable and mutually agreed upon provider, such as QuintilesIMS Health.

(ii) Third Party Patents. If Pfizer obtains a license from a Third Party to any Patent Right (other than a Specified Patent) owned by such Third Party in order to Manufacture or Commercialize any Product in a country in the Territory without infringing such Patent Right, whether directly or through any Pfizer Affiliate or Sublicensee, then, subject to Section 9.5(d)(vi), Pfizer shall have the right to deduct, from the royalty payment that would otherwise have been due pursuant to Section 9.5(a) with respect to Net Sales of such Product in such country in a particular Pfizer Quarter, an amount equal to [*] of the royalties paid by Pfizer to such Third Party pursuant to such license on account of the sale of such Product in such country during such Pfizer Quarter, such reduction to continue with any amounts not deducted carried over to future Pfizer Quarters until all such amounts have been expended.

(iii) Expiry of Certain Valid Claim Coverage. If with respect to any particular Product in any particular country in the Territory, the Royalty Term for

such Product in such country extends beyond the date on which there is no Valid Claim Covering such Product with respect to its sale, offer for sale or importation in such country, then, subject to Section 9.5(d)(vi), the royalties payable on Net Sales of such Product in such country shall be reduced by [*] for each Pfizer Quarter for the remainder of the applicable Royalty Term.

(iv) No Adjustment for Certain Sangamo Third Party Agreements. Sangamo will be solely responsible for (i) all obligations (including any royalty or other obligations that relate to the Licensed Technology) under the Current Licenses and under the Exclusive Upstream Licenses and (ii) all payments to inventors of Licensed Technology, including payments under inventorship compensation Laws and (iii) all obligations, including but not limited to financial obligations, under any agreement between Sangamo and [*], which is identified in Exhibit I, related to [*].

(v) Existing Pfizer Third Party Agreements. Pfizer will be solely responsible for all obligations (including royalty obligations) that relate to Products under its agreements with Third Parties that are in effect on or prior to the Effective Date.

(vi) Notwithstanding the foregoing, during any Pfizer Quarter in the Royalty Term for a Product in a country in the Territory, the operation of Sections 9.5(d)(i), (ii) or (iii) individually or in combination shall not reduce by more than [*] the royalties that would otherwise have been due under Section 9.5(a) with respect to Net Sales of such Product in such country during such Pfizer Quarter.

(e) Reports and Payment.

(i) Cumulative Royalties. The obligation to pay royalties under this Agreement will be imposed only once with respect to any sale of any Product.

(ii) Royalty Statements and Payments. Within [*] days after the end of each Pfizer Quarter during the Royalty Term, Pfizer shall provide Sangamo with a report that contains the following information for the applicable Pfizer Quarter, on a Product-by-Product and country-by-country basis: (1) the amount of gross sales of each Product, (2) an itemized calculation of Net Sales showing deductions provided for in the definition of "Net Sales," (3) a calculation of the royalty due on such sales, including any reduction made in accordance with Section 9.5(d), and (4) the exchange rate for such country. No such reports will be due for any Product (A) before the First Commercial Sale of such Product or (B) after the Royalty Term for such Product has expired in all countries in the Territory. Pfizer shall pay in Dollars all royalty payments due to Sangamo for such Pfizer Quarter concurrently with the delivery of the royalty report or within [*] days after the end of each Pfizer Quarter, whichever is sooner, provided that to the extent any royalties are payable by Pfizer hereunder on Net Sales of a Product in a country [*] that is [*], such royalties payable by Pfizer shall be [*] and [*].

9.6 Currency; Late Payments. All amounts payable and calculations under this Agreement will be in Dollars. As applicable, Net Sales and any royalty deductions in local

currencies will be translated into Dollars in a manner consistent with Pfizer's normal practices used to prepared its audited financial statements for public financial accounting purposes. If Sangamo does not receive payment of any sum due to it on the date due until [*] days past such date, interest shall accrue on the sum due from the due date until the date of payment at the rate equal to [*] rate effective for the date that payment was due, as reported by the Wall Street Journal (New York Edition). Such interest shall be computed on the basis of [*] for the actual number of days payment is delinquent.

9.7 Invoicing; Method of Payment. Invoices must include the appropriate Pfizer Purchase Order (PO) number (provided that such PO number is provided to Sangamo by Pfizer within [*] days after the Effective Date or within [*] days before any payment is due), reference to the Agreement and type of payment due, itemized description of work completed (if applicable), amount owed and name and address to which the payment is to be sent. All invoices shall be clearly marked "INVOICE" and delivered by email to apinvoices@pfizer.com. Should Pfizer dispute in good faith the nature or basis of any charges contained in any invoice submitted by Sangamo hereunder, Pfizer shall promptly provide written notice to Sangamo setting forth the reason for the dispute, which the Parties shall attempt to resolve in good faith in accordance with Section 16.6. Payment by Pfizer shall not result in a waiver of any of its rights under this Agreement. Each payment hereunder shall be made by electronic transfer in immediately available funds via either back wire transfer, an ACH (automated clearing house) mechanism or any other means of electronic funds transfer, at Pfizer's election, to the bank account as set forth below or as designated by Sangamo in writing to Pfizer at least [*] days before the payment is due:

Bank Name:	[*]
Beneficiary Account Number:	[*]
Beneficiary Account Name:	Sangamo Therapeutics, Inc.
International SWIFT BIC:	[*]
ABA/Routing Number:	[*]

9.8 VAT; Withholding Taxes; Tax Cooperation.

(a) VAT. It is understood and agreed between the Parties that any payments made under this Agreement are exclusive of any value added or similar tax (VAT), which shall be added thereon as applicable. Where VAT is properly added to a payment made under this Agreement, the Party making the payment will pay the amount of VAT only on receipt of a valid tax invoice issued in accordance with the laws and regulations of the country in which the VAT tax is chargeable.

(b) Withholding Taxes. Subject to Section 9.8(d) below, in the event any payments made pursuant to this Agreement become subject to withholding taxes under the laws or regulation of any jurisdiction, the Party making such payment shall deduct and withhold the amount of such taxes for the account of the payee to the extent required by applicable laws or regulations and such amounts payable to the payee shall be reduced by the amount of taxes deducted and withheld. Any such withholding taxes required under applicable laws or regulations to be paid or withheld shall be an expense of, and borne solely by, the payee.

(c) Tax Cooperation. To the extent that the Party making a payment is required to deduct and withhold taxes on any payments under this Agreement, the Party making such payment shall pay the amounts of such taxes to the proper Governmental Authority in a timely manner and promptly transmit to the payee an official tax certificate or other evidence of such withholding sufficient to enable the payee to claim such payments of taxes. The payee shall provide any tax forms to the Party making such payment that may be reasonably necessary in order for such Party not to withhold tax or to withhold tax at a reduced rate under an applicable bilateral income tax treaty. The payee shall use reasonable efforts to provide any such tax forms to the Party making the payment at least [*] days prior to the due date for any payments for which the payee desires that the Party making the payment apply a reduced withholding rate. Each Party shall provide the other with reasonable assistance to enable the recovery, as permitted by Law, of withholding taxes, VAT, or similar obligations resulting from payments made under this Agreement, such recovery to be for the benefit of the Party bearing such withholding tax or VAT.

(d) Notwithstanding anything in this Agreement to the contrary, (i) if an action (including but not limited to any assignment (including pursuant to Section 16.2), any direction by Pfizer to Sangamo to grant a license or sublicense to any Affiliate of Pfizer pursuant to Section 2.7 (or otherwise), any sublicense of its rights or obligations under this Agreement, any transfer of payment obligations hereunder, or any failure to comply with applicable Laws or filing or record retention requirements) by a Party leads to the imposition of withholding tax liability or VAT on the other Party that would not have been imposed in the absence of such action or in an increase in such liability above the liability that would have been imposed in the absence of such action, then the sum payable by that Party (in respect of which such deduction or withholding is required to be made) shall be increased to the extent necessary to ensure that the other Party receives a sum equal to the sum which it would have received had no such action occurred, (ii) otherwise, the sum payable by that Party (in respect of which such deduction or withholding is required to be made) shall be made to the other Party after deduction of the amount required to be so deducted or withheld, which deducted or withheld amount shall be remitted in accordance with applicable law.

9.9 Financial Records and Audit. Each Party shall maintain complete and accurate records in sufficient detail to permit the other Party to confirm the accuracy of the amount of Development and Manufacture costs to be reimbursed, royalty payments and other amounts payable under this Agreement. Upon reasonable prior notice, such records shall be open during regular business hours for a period of [*] years from the creation of individual records for examination by an independent certified public accountant selected by the auditing Party and reasonably acceptable to the audited Party for the sole purpose of verifying for the auditing Party the accuracy of the financial reports furnished by the audited Party pursuant to this Agreement or of any payments made, or required to be made, by or to the audited Party pursuant to this Agreement. Such audits may occur no more often than [*]. Such auditor shall not disclose the audited Party's Confidential Information to the auditing Party, except to the extent such disclosure is necessary to verify the accuracy of the financial reports furnished by the audited Party or the amount of payments to or by the audited Party under this Agreement. Any amounts shown to be owed but unpaid, or overpaid and in need of refund, shall be paid or refunded (as the case may be) within [*] days after the accountant's report, plus interest (as set forth in Section 9.6) from the original due date (unless challenged in good faith by the audited Party). The auditing Party shall bear the full cost of such audit unless such audit reveals an overpayment to, or an underpayment

by, the audited Party that resulted from a discrepancy in the financial report provided by the audited Party for the audited period, which underpayment or overpayment is more than [*] of the amount set forth in such report, in which case the audited Party shall reimburse the auditing Party for the costs for such audit.

9.10 Confidentiality. Notwithstanding any provision of this Agreement to the contrary all reports and financial information of Pfizer, its Affiliates or its Sublicensees which are provided to or subject to review by Sangamo under this Article 9 will be deemed to be Pfizer's Confidential Information and subject to the provisions of Article 11.

9.11 No Guarantee of Success. Pfizer and Sangamo acknowledge and agree that payments to Sangamo pursuant to Section 9.4(a) and Section 9.5(a): (a) have been included in this Agreement on the basis that they are only payable or otherwise relevant if the applicable Milestone Event is achieved or Net Sales are made; (b) are solely intended to allocate amounts that may be achieved upon successful Development or Commercialization of such Product as applicable, between Pfizer (who will receive all Product sales revenues) and Sangamo; and (c) are not intended to be used and will not be used as a measure of damages if this Agreement is terminated for any reason, including pursuant to Pfizer's right to terminate for convenience, before any such success is achieved and such amounts become due; and (d) will only be triggered in accordance with the terms and conditions of such provisions. Pfizer and Sangamo further acknowledge and agree that nothing in this Agreement, or in any document or presentation provided by Pfizer to Sangamo or Sangamo to Pfizer prior to the Effective Date will be construed as representing any estimate or projection of (i) the successful Development or Commercialization of any Product under this Agreement, (ii) the number of Products that will or may be successfully Developed or Commercialized under this Agreement, (iii) anticipated sales or the actual value of any Products that may be successfully Developed or Commercialized under this Agreement or (iv) the damages, if any, that may be payable if this Agreement is terminated for any reason. Neither Pfizer nor Sangamo makes any representation, warranty or covenant, either express or implied, that (A) it will successfully Develop, Manufacture, Commercialize or continue to Develop, Manufacture or Commercialize any Product in any country, (B) if Commercialized, that any Product will achieve any particular sales level, whether in any individual country or cumulatively throughout the Territory or (C) Pfizer will devote, or cause to be devoted, any level of diligence or resources to Developing or Commercializing any Product in any country, or in the Territory in general, other than is expressly required by the Pfizer Diligence Obligations or the other provisions of this Agreement.

ARTICLE 10
INTELLECTUAL PROPERTY RIGHTS

10.1 Ownership of Inventions.

(a) By Inventorship. Except as set forth in Section 10.1(b) below, ownership of all Inventions shall be based on inventorship, as determined in accordance with the rules of inventorship under United States patent laws. Each Party shall solely own any Inventions made solely by its and its Affiliates' and Sublicensees' employees, agents, or independent contractors ("**Sole Inventions**"). Without limiting the foregoing, Pfizer shall solely own all Pfizer

Manufacturing Improvements, and Sangamo shall solely own all Sangamo Manufacturing Improvements. The Parties shall jointly own any Inventions that are made jointly by employees, agents, or independent contractors of one Party and its Affiliates and Sublicensees together with employees, agents, or independent contractors of the other Party and its Affiliates and Sublicensees ("**Joint Inventions**"). All Patent Rights claiming patentable Joint Inventions shall be referred to herein as "**Joint Patents**". Except to the extent either Party is restricted by the licenses granted to the other Party under this Agreement, each Party shall be entitled to practice, license (through multiple tiers), assign and otherwise exploit the Joint Inventions and Joint Patents in all countries and jurisdictions without the duty of accounting or seeking consent from the other Party.

(b) Improvements to Licensed Technology. Notwithstanding Section 10.1(a), Sangamo shall solely own all Inventions that are improvements to the Licensed Technology (other than Inventions that are improvements to Joint Inventions and Joint Patents but not to any other Licensed Technology), including improvements to [*], but excluding any Inventions that are [*] or that relate to (i) [*] or (ii) [*] that is [*] and that is not [*] or [*]. Upon the JSC's decision to include an Additional Product as a Product pursuant to Section 4.3(b), the Parties shall determine [*], such that [*]. To the extent any such Invention that belongs to Sangamo under this Section 10.1(b) is made by Pfizer, its Affiliates or Sublicensees or its or their employees, agents, or independent contractors, whether solely or jointly, Pfizer shall and hereby does assign and transfer to Sangamo, without additional consideration, all right, title and interest in and to such Invention, and such Invention shall be deemed Sangamo's Sole Invention and Sangamo's Confidential Information (and not the Confidential Information of Pfizer).

(c) Disclosure. Through the JIPC, each Party shall promptly disclose to the other Party all Inventions, including all invention disclosures or other similar documents submitted to such Party by its, or its Affiliates' or Sublicensees', employees, agents or independent contractors relating to such Inventions, and shall also respond promptly to reasonable requests from the other Party for additional information relating to such Inventions.

(d) Personnel Obligations. Each employee, agent or independent contractor of a Party or its respective Affiliates or Sublicensees performing work under this Agreement shall, prior to commencing such work, be bound by invention assignment obligations, including: (i) promptly reporting any invention, discovery, process or other intellectual property right; (ii) presently assigning to the applicable Party all of his or her right, title and interest in and to any invention, discovery, process or other intellectual property; (iii) cooperating in the preparation, filing, prosecution, maintenance and enforcement of any patent and patent application; and (iv) performing all acts and signing, executing, acknowledging and delivering any and all documents required for effecting the obligations and purposes of this Agreement. It is understood and agreed that such invention assignment agreement need not reference or be specific to this Agreement.

10.2 Patent Prosecution.

(a) Sangamo Sole Patents.

(i) As between the Parties, Sangamo shall have the sole right, but not the obligation, to file, prosecute and maintain all Licensed Patents that are not Joint Patents ("**Sangamo Sole Patents**") throughout the world, at its own expense. Sangamo shall keep Pfizer reasonably informed of the status of such Sangamo Sole Patents and shall promptly provide Pfizer with material correspondence received from any patent authorities in connection therewith. In addition, Sangamo shall promptly provide Pfizer with drafts of all proposed material filings and correspondence to any patent authorities with respect to such Sangamo Sole Patents for Pfizer's review and comment prior to the submission of such proposed filings and correspondence. Sangamo shall confer with Pfizer and take into consideration Pfizer's comments prior to submitting such filings and correspondence, provided that Pfizer provides such comments within [*] days of receiving the draft filings and correspondence from Sangamo. If Pfizer does not provide comments within such period of time, then Pfizer shall be deemed to have no comment to such proposed filings or correspondence. In case of a disagreement between the Parties with respect to the filing, prosecution or maintenance of such Sangamo Sole Patents, the final decision shall be made by Sangamo subject to Pfizer's rights in Section 10.2(a)(ii).

(ii) Sangamo shall notify Pfizer of any decision to cease prosecution and/or maintenance of any Sangamo Sole Patent in any country. Sangamo shall provide such notice at least [*] days prior to any filing or payment due date, or any other due date that requires action in order to avoid loss of rights, in connection with such Sangamo Sole Patent. If, within [*] days after the receipt of such notice from Sangamo, Pfizer notifies Sangamo in writing that it wishes Sangamo to continue the prosecution and maintenance of such Sangamo Sole Patent in such country and agrees to reimburse Sangamo for the costs and expenses that Sangamo incurs in connection therewith, then Sangamo shall continue the prosecution and maintenance of such Sangamo Sole Patent in such country at Pfizer's cost and expense.

(iii) For the purpose of this Article 10, "prosecution" shall include any post-grant proceeding, including supplemental examination, post grant review proceeding, inter parties review proceeding, patent interference proceeding, opposition proceeding, inter parties review, reissue and reexamination.

(b) Joint Patents.

(i) As between the Parties, Sangamo shall have the first right, but not the obligation, to file, prosecute and maintain all Joint Patents throughout the world, at its own expense. Sangamo shall keep Pfizer reasonably informed of the status of Joint Patents and shall promptly provide Pfizer with material correspondence received from any patent authorities in connection therewith. In addition, Sangamo shall promptly provide Pfizer with drafts of all proposed material filings and correspondence to any patent authorities with respect to Joint Patents for Pfizer's review

and comment prior to the submission of such proposed filings and correspondence. Sangamo shall confer with Pfizer and take into consideration Pfizer's comments prior to submitting such filings and correspondence, provided that Pfizer provides such comments within [*] days of receiving the draft filings and correspondence from Sangamo. If Pfizer does not provide comments within such period of time, then Pfizer shall be deemed to have no comment to such proposed filings or correspondence. Subject to Pfizer's right to continue prosecution and maintenance of a Joint Patent pursuant to clause (ii) below, in case of a disagreement between the Parties with respect to the filing, prosecution or maintenance of Joint Patents, the final decision shall be made by Sangamo.

(ii) Sangamo shall notify Pfizer of any decision to cease prosecution and/or maintenance of any Joint Patent in any country. Sangamo shall provide such notice at least [*] days prior to any filing or payment due date, or any other due date that requires action in order to avoid loss of rights, in connection with such Joint Patent. In such event, Sangamo shall permit Pfizer, at its discretion and expense, to continue prosecution or maintenance of such Joint Patent in such country. Pfizer's prosecution or maintenance of such Joint Patent shall not change the Parties' respective rights and obligations under this Agreement with respect to such Joint Patent other than those expressly set forth in this Section 10.2(b).

(c) Product-Specific Licensed Patents. Sangamo shall use reasonable efforts, in connection with its prosecution of the Sangamo Sole Patents and the Joint Patents, to the extent permitted under applicable Laws, to, reasonably considering comments by Pfizer with respect to such strategy, file patent applications that (i) claim priority to one or more Licensed Patents and (ii) claim one or more Products (generically or specifically) but are not intended to claim any products that are not Products (collectively, the "**Product-Specific Licensed Patents**"). For clarity, if during prosecution, the claims of a Product-Specific Licensed Patent are amended to include claims that claim any product that is not a Product, then such patent application shall no longer be considered a Product-Specific Licensed Patent.

(d) Other Sangamo Patents. As between the Parties, Sangamo shall have the sole right, but not the obligation, to file, prosecute and maintain throughout the world, at its own expense, all Patent Rights Controlled by Sangamo that are not Licensed Patents or Joint Patents (including Patent Rights claiming Licensed Companion Diagnostic Technology or Sangamo Manufacturing Improvement Technology).

(e) Pfizer Patents. As between the Parties, Pfizer shall have the sole right, but not the obligation, to file, prosecute and maintain all Patent Rights Controlled by Pfizer (including Patent Rights claiming Pfizer Sole Inventions or Pfizer Manufacturing Technology, but excluding Joint Patents) throughout the world, at its own expense.

(f) Cooperation. Each Party shall provide the other Party, at the other Party's request and expense, all reasonable assistance and cooperation in the patent prosecution efforts under this Section 10.2, including providing any necessary powers of attorney and executing any other required documents or instruments for such prosecution.

10.3 Patent Enforcement.

(a) Notification. If either Party becomes aware of any (i) infringement, anywhere in the world, of any issued patent within the Licensed Patents on account of a Third Party's Manufacture, use, importation, offer for sale or sale of any [*], including any BLA filed by a Third Party for a Biosimilar Product that names a Product as a Reference Product (or similar filing in a country other than the U.S.) or (ii) declaratory judgment action by a Third Party that is developing or commercializing any [*] alleging the invalidity, unenforceability or non-infringement of any of the Licensed Patents (collectively, a "**Product Infringement**"), such Party will promptly notify the other Party in writing to that effect.

(b) Enforcement Rights.

(i) Product-Specific Licensed Patents. For any Product Infringement of a Product-Specific Licensed Patent, as between the Parties, Pfizer shall have the first right, but not the obligation, to bring an appropriate suit or take other action against any person or entity engaged in such Product Infringement, at its own cost and expense. If Pfizer fails to institute and prosecute an action or proceeding to abate such Product Infringement within a period of [*] after the first notice of such Product Infringement under Section 10.3(a) (or such shorter period as may be necessary to bring or defend and maintain such action without loss of rights), then upon Pfizer's written consent (not to be unreasonably withheld), Sangamo shall have the second right, but not the obligation, to commence a suit or take other action to enforce the applicable Product-Specific Licensed Patent against such Product Infringement at its own cost and expense.

(ii) Other Licensed Patents. For any Product Infringement of a Licensed Patent that is not a Product-Specific Licensed Patent, as between the Parties, Sangamo shall have the first right, but not the obligation, to bring an appropriate suit or take other action against any person or entity engaged in such Product Infringement, at its own cost and expense. If Sangamo fails to institute and prosecute an action or proceeding to abate such Product Infringement within a period of [*] after the first notice of such Product Infringement under Section 10.3(a) (or such shorter period as may be necessary to bring or defend and maintain such action without loss of rights), then upon Sangamo's written consent (not to be unreasonably withheld), Pfizer shall have the second right, but not the obligation, to commence a suit or take other action to enforce the applicable Licensed Patent against such Product Infringement at its own cost and expense.

(c) Collaboration. Each Party shall provide to the enforcing Party reasonable assistance in the enforcement action brought under Section 10.3(b), at such enforcing Party's request and expense, including to be named in such action if required by applicable Laws to pursue such action. The enforcing Party shall keep the other Party regularly informed of the status and progress of such enforcement efforts, shall reasonably consider the other Party's comments on any such efforts, including, without limitation, determination of litigation strategy, filing of material papers to the competent court. The non-enforcing Party shall be entitled to separate representation in such matter by counsel of its own choice and at its own expense, but such Party shall at all times

cooperate fully with the enforcing Party. The enforcing Party shall not settle any claim, suit or action that it brought under Section 10.3(b) in any manner that would negatively impact the applicable Licensed Patents, without the prior written consent of the other Party, which consent shall not be unreasonably withheld or delayed.

(d) Expenses and Recoveries. The enforcing Party bringing a claim, suit or action under Section 10.3(b) shall be solely responsible for any expenses incurred by such Party as a result of such claim, suit or action. If such Party recovers monetary damages in such claim, suit or action, such recovery shall be allocated first to the reimbursement of any expenses incurred by the Party bringing suit, second to the reimbursement of any expenses incurred by the other Party in such litigation, and any remaining amounts shall be [*]; provided, however, that, [*].

(e) Other Infringement. Sangamo shall have the sole right, but not the obligation, to bring and control, at its own cost and expense, any legal action in connection with (i) any infringement of any Licensed Patent that is not a Product Infringement or (ii) any infringement of any Patent Right Controlled by Sangamo that is not a Licensed Patent (including Patent Rights claiming Licensed Companion Diagnostic Technology or Sangamo Manufacturing Improvement Technology).

10.4 Patent Extensions. [*] right, but not the obligation, to seek, [*] if so required, patent term extensions, patent term restorations and supplemental protection certificates or the like available under the Law, including 35 USC, Section 156 and applicable foreign counterparts, in any country in the Territory in relation to the Licensed Patents. Sangamo and Pfizer will cooperate in connection with all such activities. [*], its agents and attorneys will give due consideration to all suggestions and comments of [*] regarding any such activities, but in the event of a disagreement between the Parties, [*] will have the final decision making authority; provided however, that (a) [*] extend any Licensed Patent [*], including through the use of supplemental protection certificates and the like, [*] and (b) without [*] prior written consent, [*] shall not have the right to seek, with respect to any Product and country, any such extension of a Licensed Patent that [*] if (i) [*] with respect to such Product and country and (ii) [*], unless [*].

10.5 Patents Licensed From Third Parties. Each Party's rights under Sections 10.2, 10.3 and 10.4 with respect to any Licensed Patent that is licensed by Sangamo from a Third Party shall be subject to the rights retained by such Third Party.

ARTICLE 11
CONFIDENTIALITY; PUBLICATION

11.1 Duty of Confidence. Subject to the other provisions of this Article 11:

(a) during the Term and for [*] years thereafter, all Confidential Information of a Party (the "**Disclosing Party**") shall be maintained in confidence and otherwise safeguarded by the other Party (the "**Receiving Party**") and its Affiliates, in the same manner and with the same protections as the Receiving Party maintains its own confidential information, but in any event no less than reasonable efforts;

(b) the Receiving Party may only use any such Confidential Information for the purposes of performing its obligations or exercising its rights under this Agreement;

(c) the Receiving Party may only disclose Confidential Information of the other Party to: (i) its Affiliates, licensees and Sublicensees; and (ii) employees, directors, agents, contractors, consultants and advisers of the Receiving Party and its Affiliates and Sublicensees, in each case to the extent reasonably necessary for the purposes of performing its obligations or exercising its rights under this Agreement; provided that such Persons are bound by legally enforceable obligations to maintain the confidentiality of the Confidential Information in a manner consistent with the confidentiality provisions of this Agreement; and

(d) the terms and conditions of this Agreement will be considered Confidential Information of both Parties.

11.2 Exceptions. The foregoing obligations as to particular Confidential Information of a Disclosing Party shall not apply to the extent that the Receiving Party can demonstrate that such Confidential Information:

(a) is known by the Receiving Party at the time of its receipt without an obligation of confidentiality, and not through a prior disclosure by the Disclosing Party, as documented by the Receiving Party's business records;

(b) is in the public domain before its receipt from the Disclosing Party, or thereafter enters the public domain through no fault of the Receiving Party;

(c) is subsequently disclosed to the Receiving Party by a Third Party who may lawfully do so and is not under an obligation of confidentiality to the Disclosing Party; or

(d) is discovered or developed by the Receiving Party independently and without use of or reference to any Confidential Information received from the Disclosing Party, as documented by the Receiving Party's business records.

Any combination of features or disclosures shall not be deemed to fall within the foregoing exclusions merely because individual features are published or available to the general public or in the rightful possession of the Receiving Party unless the combination itself and principle of operation are published or available to the general public or in the rightful possession of the Receiving Party.

11.3 Authorized Disclosures. Notwithstanding the obligations set forth in Sections 11.1 and 11.6, a Party may disclose the other Party's Confidential Information (including this Agreement and the terms herein) to the extent:

(a) such disclosure is reasonably necessary: (i) to such Party's directors, attorneys, independent accountants or financial advisors for the sole purpose of enabling such directors, attorneys, independent accountants or financial advisors to provide advice to such Party, provided that in each such case such recipients are bound by confidentiality and non-use obligations that are at least as restrictive as those contained in this Agreement; and provided

further that the term of confidentiality for recipients may be shorter as long as it is no less than five (5) years; or (ii) to actual or potential investors, acquirors, licensees and other financial or commercial partners solely for the purpose of evaluating or carrying out an actual or potential investment, acquisition or collaboration, provided that in each such case such recipients are bound by confidentiality and non-use obligations at least as restrictive as those contained in the Agreement; and provided further that the term of confidentiality for recipients may be shorter as long as it is no less than [*] years;

(b) such disclosure is to a Governmental Authority and necessary or desirable (i) to obtain or maintain INDs, Marketing Approvals or Pricing Approval for any Product within the Territory, or (ii) in order to respond to inquiries, requests or investigations by such Governmental Authority relating to Products or this Agreement;

(c) such disclosure is required by Law, judicial or administrative process, provided that except for disclosures governed by the last two sentence of Section 11.4, in such event such Party shall promptly inform the other Party of such required disclosure and provide the other Party an opportunity to challenge or limit the disclosure obligations, provided that Confidential Information that is disclosed pursuant to Section 11.3(b) or this Section 11.3(c) shall remain otherwise subject to the confidentiality and non-use provisions of this Article 11 (provided that such disclosure is not a public disclosure), and the Party disclosing Confidential Information to a Governmental Authority or pursuant to Law or court order shall cooperate with and reasonably assist the other Party (at the other Party's cost) if the other Party seeks a protective order or other remedy in respect of any such disclosure and furnish only that portion of the Confidential Information which, in the opinion of Party's legal counsel, is responsive to such requirement or request;

(d) necessary in order to enforce its rights under the Agreement; or

(e) such disclosure is by Sangamo and is required pursuant to the terms of any Sangamo Third Party Agreement.

11.4 SEC Filings and Other Disclosures. Either Party may disclose the terms of this Agreement and make any other public written disclosure regarding the existence of, or performance under, this Agreement, to the extent required, in the reasonable opinion of such Party's legal counsel, to comply with (a) applicable Law, including the rules and regulations promulgated by the United States Securities and Exchange Commission or (b) any equivalent Governmental Authority, securities exchange or securities regulator in any country in the Territory. Before disclosing this Agreement or any of the terms hereof pursuant to this Section 11.4, the Parties will consult with one another on the terms of this Agreement to be redacted in making any such disclosure, with the disclosing Party providing as much advance notice as is feasible under the circumstances, and giving consideration to the timely comments of the other Party. Further, if a Party discloses this Agreement or any of the terms hereof in accordance with this Section 11.4, such Party will, at its own expense, seek such confidential treatment of confidential portions of this Agreement and such other terms as it reasonably determines, giving consideration to the comments of the other Party pursuant to the preceding sentence.

11.5 Technical Publication. Neither Party may publish peer reviewed manuscripts, or give other forms of public disclosure such as abstracts and presentations, of results of studies carried out under this Agreement, without the opportunity for prior review by the other Party, except to the extent required by applicable Laws. A Party seeking publication shall provide the other Party the opportunity to review and comment on any proposed publication which relates to the Product at least [*] days prior to its intended submission for publication. The other Party shall provide the Party seeking publication with its comments in writing, if any, within [*] days after receipt of such proposed publication. The Party seeking publication shall consider in good faith any comments thereto provided by the other Party and shall comply with the other Party's request to remove any and all of such other Party's Confidential Information from the proposed publication. In addition, the Party seeking publication shall delay the submission for a period up to [*] days in the event that the other Party can demonstrate reasonable need for such delay, including without limitation, the preparation and filing of a patent application. If the other Party fails to provide its comments to the Party seeking publication within such [*] day period, such other Party shall be deemed to not have any comments, and the Party seeking publication shall be free to publish in accordance with this Section 11.5 after the [*] day period has elapsed. The Party seeking publication shall provide the other Party a copy of the manuscript at the time of the submission. Each Party agrees to acknowledge the contributions of the other Party and its employees in all publications as scientifically appropriate. Notwithstanding anything in this Agreement to the contrary, nothing will prevent Pfizer from making any scientific publication or public announcement with respect to any approved Product(s) under this Agreement; *provided, however*, that Pfizer will comply with this Section 11.5 and, except as permitted under Sections 11.2 and 11.3, Pfizer will not disclose any of Sangamo's Confidential Information in any such publication or announcement without obtaining Sangamo's prior written consent to do so (such consent not to be unreasonably withheld). In the event of any disagreement on publication, the matter shall be referred to the JSC for attempted resolution.

11.6 Publicity.

(a) Sangamo and Pfizer have agreed on language of a joint press release announcing this Agreement, which is attached hereto as **Exhibit D**, to be issued by the Parties promptly after the Effective Date.

(b) Other than the joint press release set forth in **Exhibit D** and disclosures under Section 11.4, the Parties agree that any other news release or other public announcement relating to this Agreement or the performance hereunder that would disclose information other than that already in the public domain shall first be reviewed and approved by both Parties (with such approval not to be unreasonably withheld or delayed); provided, however, that notwithstanding the foregoing, Sangamo shall have the right to disclose publicly (including in its securities filings and earning calls): [*]; provided that (A) Pfizer will have at least [*] business days to review and provide edits and comments to any public disclosure proposed by Sangamo under this sentence, and (B) Sangamo will reasonably incorporate any edits and address any comments provided by Pfizer in such proposed public disclosure.

(c) The Parties agree that after a press release (including the initial press release) or other public announcement has been reviewed and approved by the other Party under

this Section 11.6, the disclosing Party may reissue the public disclosures without having to obtain the other Party's prior consent and approval.

(d) Each Party agrees that the other Party shall have the right to use such first Party's name in presentations, the company's website, collateral materials and corporate overviews to describe the collaboration relationship, as well as in taglines of press releases issued pursuant to this Section 11.6.

(e) Subject to Section 11.6(d), neither Party shall use the name, trade name, service marks, trademarks, trade, dress or logos of the other Party (or any of its Affiliates) in publicity releases, advertising or any other publication, without the other Party's prior written consent in each instance.

11.7 Obligations in Connection with Change of Control. If Sangamo is subject to a Change of Control, Sangamo will, and it will cause its Representatives to, ensure that no Confidential Information of Pfizer is released to (a) any Affiliate of Sangamo that becomes an Affiliate as a result of the Change of Control or (b) any other Representatives of Sangamo (or of the relevant surviving entity of such Change of Control) who become a Representatives of Sangamo as a result of the Change of Control, unless such Affiliate or other Representatives, as applicable, have signed individual confidentiality agreements which include equivalent obligations to those set out in this Article 11. If any Change of Control of Sangamo occurs, Sangamo will promptly notify Pfizer, share with Pfizer the policies and procedures it plans to implement in order to protect the confidentiality of Pfizer's Confidential Information prior to such implementation and make any adjustments to such policies and procedures that are reasonably requested by Pfizer.

ARTICLE 12
TERM AND TERMINATION

12.1 Term. The term of this Agreement shall commence upon the Effective Date and continue in full force and effect, on a Product-by-Product and country-by-country basis, until the expiration of the Royalty Term for such Product in such country, unless earlier terminated as set forth in Section 12.2 below (the "**Term**"). Notwithstanding any provision of this Agreement to the contrary, upon expiration of this Agreement, Pfizer will retain the fully paid-up, perpetual, irrevocable royalty-free license to each Product as set forth in Section 9.5(c), except with respect to those Products and countries for which the Agreement was previously terminated.

12.2 Termination.

(a) Termination by Pfizer for Convenience. Pfizer may terminate this Agreement on a Product-by-Product or country-by-country basis, or in its entirety, without cause, for any or no reason, by providing written notice of termination to Sangamo, which notice includes an effective date of termination at least [*] days after the notice prior to Commercialization of a Product and [*] days after the date of the notice after the commencement of the Commercialization of a Product. Upon any such termination, the changes to Pfizer's Diligence Obligations under Sections 8.1(a) and 8.2 will apply as set forth therein, as and to the extent applicable.

(b) Termination for Material Breach. If either Party believes that the other is in breach of its material obligations hereunder, then the non-breaching Party may deliver notice of such breach ("**Breach Notice**") to the other Party. If the Party receiving notice of breach fails to cure such material breach within the applicable period set forth below, then the Party originally delivering the notice of breach may terminate this Agreement effective on written notice of termination to the other Party. For all breaches other than a failure to make a payment as set forth in this Agreement, the allegedly breaching Party shall have [*] days from such Breach Notice to cure such breach, provided, however, that if any breach is not reasonably curable within [*] days and the allegedly breaching Party is making a bona fide effort to cure such breach, such termination will be delayed for a time period to be agreed by both Parties in order to permit the allegedly breaching Party a reasonable period of time to cure such breach, not to exceed an additional [*] days. For any breach arising from a failure to make a payment set forth in this Agreement, the cure period will be [*] days and such cure period will be tolled pending resolution of any bona fide dispute between the Parties as to whether such payment is due. In the event Sangamo believe Pfizer has failed to make a payment, Sangamo will provide Pfizer with written notice and both Parties will use reasonable efforts to convene their finance personnel to resolve such dispute within [*] days of receipt of the written notice. If the Parties agree to a resolution for such bona fide dispute or such dispute is resolved pursuant to Section 16.6, any amounts due as part of such resolution shall be paid within [*] days thereafter.

(c) Termination for a Bankruptcy Event.

(i) Termination Right. Each Party shall have the right to terminate this Agreement in the event of a Bankruptcy Event with respect to the other Party.

(ii) Rights to Intellectual Property. All rights and licenses granted under or pursuant to this Agreement by a Party are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code. The Parties agree that each Party, as licensee of intellectual property under this Agreement, shall retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code. The Parties further agree that in the event of a rejection of this Agreement by a Party in any bankruptcy proceeding by or against such Party under the U.S. Bankruptcy Code, (a) the other Party shall be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property that are necessary for the other Party to practice its license to such intellectual property, which, if not already in such other Party's possession, shall be promptly delivered to it upon its written request therefor, and (b) such Party shall not interfere with the other Party's rights to such intellectual property, and shall assist and not interfere with such other Party in obtaining such intellectual property and such embodiments of such intellectual property from another entity. The term "embodiments" of intellectual property means all tangible embodiments of the intellectual property licensed hereunder to the extent of the license scope, and shall exclude, without limitation, all inventory of Products and filings with Regulatory Authorities.

(iii) **No Limitation of Rights**. All rights, powers and remedies provided in this Section 12.2(c) are in addition to and not in substitution for any and all other rights, powers and remedies now or hereafter existing at Law or in equity (including the Bankruptcy Code) in the event of the commencement of a case under the Bankruptcy Code.

12.3 Effects of Termination.

(a) **Termination by Sangamo for Cause or Bankruptcy; Termination by Pfizer for Convenience**. In the event that Sangamo terminates this Agreement, pursuant to Section 12.2(b) or 12.2(c) or Pfizer terminates this Agreement, pursuant to Section 12.2(a) all rights and obligations of each Party under this Agreement shall cease (including all non-perpetual and revocable rights and licenses granted by either Party to the other Party hereunder), except as otherwise expressly provided herein; provided that if such termination is on a Product-by-Product or country-by-country basis then such rights and obligations shall cease with respect to the terminated Product(s) and country(ies) only. In addition, (x) if this Agreement is terminated [*] with respect to [*] (including a termination of this Agreement [*]), the Parties shall [*] with respect to such other terminated Product(s) and (y) if this Agreement is terminated [*] with respect to [*] (including but not limited to the termination of the Agreement [*] provided [*]) the following shall apply:

(i) Effective upon termination, and subject to the terms of this Section 12.3(a)(i), Pfizer hereby grants Sangamo an exclusive right and license (subject to a retained research use right by Pfizer), with the right to grant sublicenses through multiple tiers, under its interest in Pfizer Program Technology Controlled by Pfizer or its Affiliates, to Develop, Manufacture and Commercialize [*] in the Field in the Territory, where "**Pfizer Program Technology**" means all Patent Rights and Know-How that are both Controlled by Pfizer or its Affiliates and [*].

(ii) Within a reasonable period of time following notice of termination from Pfizer to Sangamo, if requested by Sangamo, the Parties will meet to mutually agree upon a transition plan to effect an orderly and timely transition to Sangamo of all Development, Manufacture and Commercialization activities and responsibilities with respect to [*] (such plan, a "**Transition Plan**"), which will incorporate the following elements (which elements do not require mutual agreement after notice of termination) and other provisions as reasonably requested, including [*] in connection with any activities [*] in connection with such transition:

(1) To the extent requested by Sangamo, assignment and transfer by Pfizer to Sangamo or its designee of all Regulatory Materials for [*] in the Territory. If Pfizer is prohibited by applicable Law from assigning or transferring ownership of any of the foregoing items to Sangamo, Pfizer shall grant Sangamo (or its designee) a right of reference or use to such item and shall take other actions reasonably requested by Sangamo to provide Sangamo or its designee access to and the benefit of such Regulatory Materials, including the data contained or referenced therein. Each Party shall take actions reasonably necessary to effect such assignment and transfer or grant of right of reference or use to Sangamo (or its designee), including by making such filings with Regulatory Authorities in the Territory that may be necessary to

record such assignment or effect such transfer and, at Sangamo's written request, to complete any pending regulatory filings with respect to [*].

(2) Upon Sangamo's written request and at Sangamo's reasonable expense, assignment and transfer to Sangamo of Pfizer's entire right, title, and interest in and to all pharmacological, toxicological and clinical test data and results, research data, reports and batch records, safety data and all other data Controlled by Pfizer or its Affiliates and reasonably in its or their possession or Control as of the effective date of termination and generated in the Development, Manufacture or Commercialization of [*], subject to a retained right by Pfizer to use such data to continue prosecution of any Patent Rights conceived by Pfizer and its Affiliates in the course of conducting its activities under this Agreement. Such assigned data, results, reports and records shall be deemed the Confidential Information of both Parties.

(3) Pfizer shall promptly provide Sangamo with a copy of each agreement for which Pfizer has a right to disclose and assign or sublicense that is then in effect between Pfizer (or its Affiliates) and a Third Party with respect to [*], or the Development, Manufacture and Commercialization thereof, and upon Sangamo's request, Pfizer shall assign or sublicense, and shall ensure that its Affiliates assign or sublicense, to Sangamo (A) any such agreement that solely relates to [*], to the extent permitted under the terms thereof, and (B) for any agreement that does not solely relate to [*] and to the extent permitted under the terms of such agreement, the portion of such agreement (e.g., a work order or statement of work) that relates solely to [*]. Upon Sangamo's request, Pfizer shall provide reasonable assistance to Sangamo in connection with any such agreement that is not assignable or sublicenseable to Sangamo, such as introducing Sangamo to such Third Party.

(4) If Pfizer is, itself or through its Affiliate, Manufacturing [*] at the time of the notice of termination, Pfizer shall, upon Sangamo's request, supply [*] to Sangamo at Pfizer's Manufacturing Cost [*] for a reasonable period of time (not to exceed [*] months) until Sangamo establishes an alternative supplier, and reasonably assist Sangamo in establishing an alternative supplier for [*].

(5) If, at the time of such termination, Pfizer is conducting any clinical trials for [*], then, at Sangamo's election on a trial-by-trial and site-by-site basis: (A) Pfizer shall fully cooperate with Sangamo to transfer the conduct of all such clinical trials at such sites to Sangamo and Sangamo shall assume any and all liability for such clinical trials at such sites after the effective date of such termination; or (B) Pfizer shall, at its expense, orderly wind down the conduct of any such clinical trial or site which is not assumed by Sangamo under clause (A). Notwithstanding anything else herein, in the event Sangamo elects subpart B above, Pfizer shall only be obligated to provide Sangamo with the safety data from such trial or such site, as applicable.

(iii) In consideration of and as a condition to the licenses granted and activities conducted in Section 12.3(a)(i) and Section 12.3(a)(ii), Pfizer shall receive the following consideration:

(1) In the event that the effective date of termination occurs prior to [*], Sangamo shall pay Pfizer royalties on [*] in the Territory equal to [*] of Net Sales of

[*] (as defined for purposes of this Section 12.3(a)(iii) on the same basis as if Sangamo was Pfizer in the definition of Net Sales), for a royalty term expiring [*], subject to royalty reductions equivalent to those set forth in Section 9.5(d).

(2) In the event that the effective date of termination occurs following [*] but prior to [*], Sangamo shall pay Pfizer royalties on [*] equal to [*] of Net Sales of [*] (as defined for purposes of this Section 12.3(a)(iii) on the same basis as if Sangamo was Pfizer in the definition of Net Sales), for a royalty term expiring [*], subject to royalty reductions equivalent to those set forth in Section 9.5(d).

(3) In the event that the effective date of termination occurs following [*], Sangamo shall pay Pfizer royalties on [*] equal to [*] of Net Sales of [*] (as defined for purposes of this Section 12.3(a)(iii) on the same basis as if Sangamo was Pfizer in the definition of Net Sales), for a royalty term expiring [*], subject to royalty reductions equivalent to those set forth in Section 9.5(d).

(4) Sangamo would fully and forever release and discharge Pfizer and its Affiliates, from any and all claims, demands, liabilities, obligations, responsibilities, suits, actions and causes of action, known or unknown, past, present or future, or otherwise, arising out of or relating to this Agreement or a breach of Pfizer's rights and obligations under this Agreement to the extent related to [*]; provided, however, that the foregoing release does not discharge any rights or obligations set forth in the Transition Plan or for payment of any royalties, milestones, or any undisputed amounts owed under this Agreement. The Parties agree that this Section 12.3(a) would be in full and complete settlement of the rights and obligations of the parties in connection with [*] under this Agreement. Pfizer shall transfer and assign to Sangamo, at Sangamo's request and expense, all Trademarks that have been used, or were intended to be used, in connection with [*] (excluding any such marks that include, in whole or part, any corporate name or logos of Pfizer or its Affiliates or Sublicensees).

(5) Pfizer shall promptly deliver to Sangamo an inventory list of [*] then in its (or its Affiliates') possession or control. At Sangamo's request, Pfizer shall deliver to Sangamo all or part of such inventory, and Sangamo shall reimburse Pfizer for its Manufacturing Cost [*] for such delivered inventory, provided that such inventory complies with specifications and has been manufactured in compliance with all applicable Laws, including cGMP.

(iv) Except as otherwise provided herein, within [*] days after any termination of this Agreement, each Party shall destroy or return to the other Party (at the other Party's discretion) all tangible items bearing, containing, or contained in, any of the Confidential Information of the other Party. If the material is destroyed, it shall provide the other Party written certification of such destruction. For clarity, Sangamo shall not be required to destroy or return to Pfizer pursuant to this Section 12.3(a)(viii) any Confidential Information of Pfizer to which Sangamo has licenses or other rights pursuant to this Section 12.3(a).

Notwithstanding the foregoing, in the event of a termination of this Agreement pursuant to Sections 12.2(a) or 8.6 as to less than the entire Territory, the Parties shall in good faith cooperate

to effect a reversion of [*] rights and assets to Sangamo for the countries as to which such termination applies that is equivalent to the reversion of rights and assets specified in this Section 12.3(a) above, while leaving Pfizer in possession of such rights and assets as Pfizer reasonably requires to continue the Development, Manufacture and Commercialization of [*] in the balance of the Territory. In the event of a termination of this Agreement pursuant to Section 12.2(a) or 8.6 as to one or more (but not all) Products, the effects of termination set forth in this Section 12.3(a) will apply to the terminated Products only.

(b) Termination by Pfizer for Bankruptcy. In the event that Pfizer terminates this Agreement pursuant to Section 12(c), all rights and obligations of each Party hereunder shall cease (including all non-perpetual, revocable rights and licenses granted by either Party to the other Party hereunder), except as otherwise expressly provided herein.

(c) Termination by Pfizer for Cause. In the event that Pfizer terminates this Agreement pursuant to Section 12.2(b), all rights and obligations of each Party hereunder shall cease (including all non-perpetual, revocable rights and licenses granted by either Party to the other Party hereunder), except as otherwise expressly provided herein.

(d) Pfizer Remedies for Sangamo Material Breach. In the event that Pfizer has the right, but elects (after notice to Sangamo and failure of Sangamo to cure within the applicable cure period) not, to terminate this Agreement pursuant to Section 12.2(b), Pfizer shall notify Sangamo promptly upon the end of such cure period and: (i) [*], and, [*] (1) Pfizer will [*] on account of such material breach, to the extent [*]; or (2) Pfizer will [*] the uncured material breach [*]. [*].

12.4 Sangamo's Right to Receive All Payments Accrued. Expiration or termination of this Agreement for any reason (x) shall be without prejudice to Sangamo's right to receive all Milestone Payments accrued under Section 9.4(a) (other than the [*] milestone payable on [*], which amount shall not be payable unless such event occurs prior to the date that a notice of termination is given by either Party to the other under Section 12.2) and all royalties accrued under Section 9.5(a) prior to the effective date of such termination and to any other remedies that either Party may otherwise have and (y) shall not release a Party hereto from any indebtedness, liability or other obligation incurred hereunder by such Party prior to the date of termination or expiration, provided that Pfizer will not be liable for any Milestone Payment that accrues between a notice of termination by Pfizer of the Agreement in its entirety and the date of termination of this Agreement.

12.5 Survival. Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing prior to such expiration or termination. Without limiting the foregoing, the provisions of Sections [*] shall survive the expiration or termination of this Agreement.

12.6 Termination Not Sole Remedy. Termination is not the sole remedy under this Agreement and, whether or not termination is effected and notwithstanding anything contained in this Agreement to the contrary, all other remedies shall remain available except as agreed to otherwise herein.

ARTICLE 13
REPRESENTATIONS AND WARRANTIES

13.1 Mutual Representations and Warranties. Each Party represents and warrants to the other Party as of the Effective Date that:

(a) such Party is duly organized, validly existing and in good standing under the laws of the jurisdiction in which it is organized;

(b) such Party: (i) has the requisite power and authority and the legal right to enter into this Agreement and to perform its obligations hereunder, and (ii) has taken all requisite action on its part to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder;

(c) this Agreement has been duly executed on behalf of such Party and is a legal, valid and binding obligation on such Party, enforceable against such Party in accordance with its terms;

(d) all necessary consents, approvals and authorizations of all Governmental Authorities and other persons or entities required to be obtained by such Party in connection with the execution and delivery of this Agreement have been obtained; and

(e) the execution and delivery of this Agreement and the performance of such Party's obligations hereunder: (i) do not conflict with or violate any requirement of applicable Laws, regulations or orders of Governmental Authorities, (ii) do not conflict with, or constitute a breach or default under, any contractual obligation of such Party, and (iii) do not conflict with or result in a breach of any provision of the organizational documents of such Party.

13.2 Representations and Warranties by Sangamo. Sangamo represents and warrants to Pfizer that:

(a) as of the Effective Date, Sangamo is the sole and exclusive owner of the Licensed Patents listed on **Exhibit A**, all of which are free and clear of any claims, liens, charges or encumbrances;

(b) as of the Effective Date, Sangamo has the full right, power and authority to (i) grant the licenses and other rights (including the right to sublicense) granted to Pfizer under this Agreement and (ii) perform its obligations under this Agreement;

(c) **Exhibit J** sets forth a true and complete list of all Products and Additional Product Candidates on which Sangamo or its Affiliates have conducted in vivo preclinical studies on or prior to the Effective Date;

(d) (A) **Exhibit A** sets forth a true and complete list of all Licensed Patents (i) owned or otherwise Controlled by Sangamo or its Affiliates as of the Effective Date or (ii) to which Sangamo or its Affiliates have as of the Effective Date been granted or otherwise transferred any right to practice under, in each case that are necessary for the Development, Manufacture, or

Commercialization of SB-525, (B) except for expired provisional patent applications, each such Patent Right , remains in full force and effect as of the Effective Date and (C) Sangamo or its Affiliates have timely paid, or caused the appropriate Third Parties to pay, all filing and renewal fees payable as of the Effective Date with respect to such Patent Rights;

(e) as of the Effective Date, Sangamo has disclosed to Pfizer all material scientific and technical information and all material information relating to the safety and efficacy of SB-525, in each case that was generated by or on behalf of it or its Affiliates;

(f) to Sangamo's knowledge as of the Effective Date, no Third Party (i) is infringing any Licensed Patents or (ii) has challenged or threatened to challenge the inventorship, ownership, Sangamo's right to use, scope, validity or enforceability of, or Sangamo's or any Current Licensor's rights in or to, any Licensed Patents (including, by way of example, through the institution or written threat of institution of interference, derivation, post-grant review, opposition, nullity or similar invalidity proceedings before the United States Patent and Trademark Office or any analogous foreign Governmental Authority);

(g) as of the Effective Date, Sangamo has complied with all applicable Laws, including any disclosure requirements, in connection with the filing, prosecution and maintenance of the Licensed Patents;

(h) except with respect to Licensed Patents Controlled by Sangamo pursuant to a Current License, Sangamo has obtained from all inventors of the Licensed Patents existing as of the Effective Date, valid and enforceable agreements assigning to Sangamo each such inventor's entire right, title and interest in and to all such Licensed Patents;

(i) except with respect to Licensed Technology Controlled by Sangamo pursuant to a Current License, no Licensed Technology existing as of the Effective Date is subject to any funding agreement with any government or Governmental Authority;

(j) except as expressly disclosed in **Exhibit I**, as of the Effective Date, neither Sangamo nor any of its Affiliates are party to or otherwise subject to any agreement or arrangement which limits the licensed or sublicensed rights of Pfizer with respect to, or limits the ability of Pfizer to grant a sublicense to, or provide access or other rights in, to, or under any Licensed Technology (including any Patent Right or Know-How included therein), in each case, that would, but for such agreement or arrangement, be included in the rights licensed to Pfizer pursuant to this Agreement;

(k) as of the Effective Date, (i) there are no Sangamo Third Party Agreements other than the Current Licenses set forth on **Exhibit K**, (ii) true and complete copies of each Current License (other than financial terms redacted therefrom) have been provided to Pfizer, (iii) except as provided in the Current Licenses, no Third Party has any right, title or interest in or to, or any license under, any Licensed Technology that conflicts with the rights granted to Pfizer hereunder, (iv) no rights granted by or to Sangamo or its Affiliates under any Current License conflict with any right or license granted to Pfizer hereunder and (iv) Sangamo and its Affiliates are in compliance in all material respects with all Current Licenses;

(l) to Sangamo's knowledge as of the Effective Date, except as disclosed to Pfizer prior to the Effective Date, the Development and Manufacture by Sangamo (or its Affiliates) of SB-525 prior to the Effective Date did not, and the conduct by Sangamo or its Affiliates of the SB-525 Phase I/II Trial or the SB-525 Phase I/II Long-Term Follow-Up Study will not (a) infringe any issued patent of any Third Party or (b) infringe the claims of any published Third Party patent application when and if such claims issue as published;

(m) as of the Effective Date, except as expressly disclosed in **Exhibit I**, there is no (i) claim, demand, suit, proceeding, arbitration, inquiry, investigation or other legal action of any nature, civil, criminal, regulatory or otherwise, pending or, to the knowledge of Sangamo, threatened against Sangamo or any of its Affiliates or (ii) judgment or settlement against or owed by Sangamo or any of its Affiliates, in each case in connection with the Licensed Technology or SB-525 or relating to the transactions contemplated by this Agreement;

(n) as of the Effective Date, Sangamo has valid and enforceable agreements with all persons employed by Sangamo or its Affiliates who will conduct activities under this Agreement which require such persons to assign to Sangamo their entire right, title and interest in and to all Licensed Technology;

(o) as of the Effective Date, Sangamo is not, and to Sangamo's knowledge, none of its Affiliates or its or its Affiliates' employees nor any Third Party that conducted Development or Manufacture of SB-525 on behalf of Sangamo prior to the Effective Date (in each case, as applicable) is, debarred by any Regulatory Authority or, to Sangamo's knowledge, the subject of debarment proceedings by any Regulatory Authority and, in the course of the discovery or pre-clinical development of SB-525 prior to the Effective Date, Sangamo has not and, to the knowledge of Sangamo, no Affiliate of Sangamo or Third Party acting on behalf of Sangamo (in each case, as applicable) have used any employee or consultant that is debarred by any Regulatory Authority or, to the knowledge of Sangamo, is the subject of debarment proceedings by any Regulatory Authority; and

(p) as of the Effective Date, Sangamo has no knowledge of (i) any prior art or other facts that Sangamo reasonably believes would result in the invalidity or unenforceability of any issued or pending claims included in the Licensed Patents, (ii) any inequitable conduct or fraud on any patent office with respect to any of the Licensed Patents or (iii) any Person (other than Persons identified in the applicable patent applications or patents, as inventors of inventions claimed in the Licensed Patents) who claims to be an inventor of an invention claimed in the Licensed Patents.

13.3 Accuracy of Representations and Warranties.

(a) Sangamo will promptly notify Pfizer of any lawsuits, claims, administrative actions or other proceedings asserted or commenced against Sangamo or its Representatives involving in any material way the ability of Sangamo to deliver the rights, licenses and sublicenses granted to Pfizer herein.

(b) Sangamo will promptly notify Pfizer in writing of any facts or circumstances arising after the Effective Date which come to Sangamo's attention at any time

during the Term and which would cause, or through the passage of time would cause, any of the representations and warranties contained in Section 13.1 or Section 13.2, if made at the time of such fact or circumstance becomes known to Sangamo, to be inaccurate or untrue in any material respect.

13.4 Sangamo Covenants. In addition to the covenants made by Sangamo elsewhere in this Agreement, Sangamo hereby covenants to Pfizer that, from the Effective Date until expiration or termination of this Agreement:

(a) Sangamo will use its best efforts to [*], which is identified in **Exhibit I**, within [*] days after the Effective Date.

(b) Sangamo will not, and will cause its Affiliates not to (i) license, sell, or assign (other than in a connection with a permitted assignment of this Agreement by Sangamo pursuant to Section 16.2) or otherwise transfer to any Person (other than Pfizer or its Affiliates or Sublicensees pursuant to the terms of this Agreement) any Licensed Technology (or agree to do any of the foregoing) in a manner that is inconsistent with the licenses and other rights granted to Pfizer under this Agreement or (b) incur or permit to exist, with respect to any Licensed Technology, any lien, encumbrance, charge, security interest, mortgage, liability, assignment, grant of license or other Binding Obligation in each case that is inconsistent with the licenses and other rights granted to Pfizer under this Agreement;

(c) Sangamo will not (i) take any action with respect to any Sangamo Third Party Agreement that diminishes the rights under the Licensed Technology granted to Pfizer under this Agreement or (b) fail to take any action with respect to a Sangamo Third Party Agreement that is reasonably necessary to avoid diminishing the rights under the Licensed Technology granted to Pfizer under this Agreement;

(d) Sangamo will (a) not enter into any Sangamo Third Party Agreement that adversely affects (1) the rights granted to Pfizer, Pfizer's Affiliates or Sublicensees hereunder or (2) Sangamo's ability to fully perform its obligations hereunder; and (b) promptly furnish Pfizer with true and complete copies of all (1) amendments to the Current Licenses and (2) Sangamo Third Party Agreements executed following the Effective Date, in each case redacted of financial terms, except in the case of Non-Exclusive Upstream Licenses;.

(e) Sangamo has made or will make any payments owing by Sangamo to any inventor of any Licensed Technology owned by Sangamo that is required in connection with the creation or exploitation of or transfer of rights to such Licensed Technology; and

(f) during the Term, Sangamo will promptly notify Pfizer in the event that it learns of:

(i) any prior art or other facts that Sangamo believes would result in the invalidity or unenforceability of any of the claims including in any of the Licensed Patents;

(ii) any inequitable conduct or fraud on the patent office with respect to any of the Licensed Patents; or

(iii) any Person (other than Persons identified as inventors of inventions claimed in the Sangamo Patent Rights) who claims to be an inventor of an invention claimed in Licensed Patents.

13.5 Mutual Covenants.

(a) No Debarment. In the course of the research, development, Manufacture and commercialization of the Products, neither Party nor its Affiliates or Sublicensees shall use any employee or consultant who has been debarred by any Regulatory Authority, or, to such Party's or its Affiliates' knowledge, is the subject of debarment proceedings by a Regulatory Authority. Each Party shall notify the other Party promptly upon becoming aware that any of its or its Affiliates' or Sublicensees' employees or consultants has been debarred or is the subject of debarment proceedings by any Regulatory Authority.

(b) Compliance. Each Party and its Affiliates shall comply in all material respects with all applicable Laws (including all anti-bribery laws) in the Development, Manufacture and Commercialization of the Products and performance of its obligations under this Agreement.

13.6 Compliance with Law and Ethical Business Practices. In addition to the other representations, warranties and covenants made by each Party elsewhere in this Agreement, each Party (the "**Compliant Party**") represents and warrants or covenants, as applicable, to the other Party that during the Term:

(a) it is licensed, registered, or qualified under applicable Law to do business, and has obtained such licenses, consents, authorizations or completed such registrations or made such notifications as may be necessary or required by applicable Law to provide the goods or services encompassed within this Agreement, and providing such goods or services is not inconsistent with any other obligation of the Compliant Party;

(b) in conducting its activities hereunder, it will and will cause its Affiliates and its other Representatives to comply in all material respects with applicable Law and accepted pharmaceutical industry business practices, including, to the extent applicable to each Compliant Party and each such Affiliate and other Representative, the United States Federal Food, Drug, and Cosmetic Act (21 U.S.C. § 301, et seq.), the Anti-Kickback Statute (42 U.S.C. § 1320a-7b), Civil Monetary Penalty Statute (42 U.S.C. § 1320a-7a), the False Claims Act (31 U.S.C. § 3729 et seq.), comparable state statutes, the regulations promulgated under all such statutes, and the regulations issued by the FDA, consistent with the 'Compliance Program Guidance for Pharmaceutical Manufacturers' published by the Office of Inspector General, U.S. Department of Health and Human Services;

(c) with respect to any Products, payments or services provided under this Agreement, it has not taken and will not during the Term take any action directly or indirectly to unlawfully offer, promise or pay, or authorize the offer or payment of, any money or anything of

value in order to improperly or corruptly seek to influence any Government Official or any other person in order to gain an improper advantage, and has not accepted, and will not accept in the future any such unlawful payment;

(d) it complies with the applicable laws and regulations of the countries where it operates, including anti-bribery and anti-corruption laws, accounting and record keeping laws, and laws relating to interactions with healthcare professionals or healthcare providers (collectively, "**HCPs**") and Government Officials;

(e) commencing promptly after the Effective Date, it will take steps toward adopting and implementing policies and procedures, and will adopt and implement such policies and procedures within six (6) months after the Effective Date, setting out rules governing interactions with HCPs and Government Officials, engagement of Third Parties, including, where appropriate, due diligence ("**Policies**"), and its Policies will mandate a robust set of internal controls, including accounting controls, designed to ensure the making and keeping of fair and accurate books, records and accounts, on its operations around the world and apply worldwide to all its employees, subsidiaries, and Third Parties acting on its behalf, and which Policies will include (i) providing training to its officers, directors, employees and where appropriate, its other Representatives on such Policies, (ii) regular monitoring and auditing of activities to confirm compliance with such Policies and the adequacy of internal controls, and remediation of identified issues, and (iii) requirements for regular review as part of its internal processes of improvement, and, from time to time, benchmarking against the standards of the industry with the assistance of external counsel;

(f) to its knowledge, it and each of its Affiliates has been and will, for the Term, be in compliance with all applicable Global Trade Control Laws (as defined in Section 16.8 below), including those related to, import controls, export controls, or economic sanctions, and it will cause each of its Affiliates to remain in compliance with the same during the Term;

(g) to its knowledge, except to the extent permissible under United States law, neither it nor any of its Affiliates has, on its own behalf or in acting on behalf of any other Person, directly or indirectly engaged with, and will not for the Term, without any required government authorization, directly or indirectly engage in any transactions, or otherwise deal with, any country or Person targeted by United States, European Union, United Kingdom or other relevant economic sanctions laws in connection with any activities related to the Party's interaction with the other Party, including those contemplated under this Agreement; and

(h) it is, as between the Parties, solely responsible to ensure Compliance by it and its Affiliates.

13.7 Representation by Legal Counsel. Each Party hereto represents that it has been represented by legal counsel in connection with this Agreement and acknowledges that it has participated in the drafting hereof. In interpreting and applying the terms and provisions of this Agreement, the Parties agree that no presumption will exist or be implied against the Party which drafted such terms and provisions.

13.8 No Other Warranties. EXCEPT AS EXPRESSLY STATED IN THIS ARTICLE 13 AND IN SECTION 16.10, (A) NO REPRESENTATION, CONDITION OR WARRANTY WHATSOEVER IS MADE OR GIVEN BY OR ON BEHALF OF PFIZER OR SANGAMO; AND (B) ALL OTHER CONDITIONS AND WARRANTIES WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING ANY CONDITIONS AND WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. Both Parties understand that the Products are the subject of ongoing research and development and that neither Party can assure the safety, effectiveness, Marketing Approval, Pricing Approval or commercial success of any Product.

ARTICLE 14
INDEMNIFICATION; LIABILITY; INSURANCE

14.1 Indemnification by Sangamo. Sangamo shall indemnify, defend and hold harmless Pfizer and its Affiliates and Sublicensees, and each of their respective directors, officers, employees and agents (collectively "**Pfizer Indemnitees**"), from and against all losses, liabilities, damages and expenses, including reasonable attorneys' fees and costs (collectively, "**Liabilities**"), to the extent resulting from any claims, demands, actions or other proceedings by any Third Party arising out of:

(a) the material breach of any representation, warranty or covenant by Sangamo under this Agreement;

(b) the recklessness, negligence or intentional misconduct of any Sangamo Indemnitees; or

(c) the research, Development and Manufacture of SB-525 by or on behalf of Sangamo or its Affiliates prior to the Effective Date;

except, in each case, to the extent caused by the negligence or intentional misconduct of any Pfizer Indemnitees or a material breach by Pfizer of any of its representations, warranties or covenants set forth in this Agreement.

14.2 Indemnification by Pfizer. Pfizer shall indemnify, defend and hold harmless Sangamo and its Affiliates, Upstream Licensors and each of their respective directors, officers, employees and agents (collectively "**Sangamo Indemnitees**"), from and against all Liabilities to the extent resulting from any claims, demands, actions or other proceedings by any Third Party arising out of:

(a) the material breach of any representation, warranty or covenant by Pfizer under this Agreement;

(b) the recklessness, negligence or intentional misconduct of any Pfizer Indemnitees;

(c) the research of Additional Products by or on behalf of Pfizer or its Affiliates; or

(d) the research, Development, Manufacture, and Commercialization of the Products by or on behalf of Pfizer or its Affiliates or Sublicensees;

except, in each case, to the extent caused by the negligence or intentional misconduct of any Sangamo Indemnitees or a material breach by Sangamo of any of its representations, warranties or covenants set forth in this Agreement.

14.3 Indemnification Procedure.

(a) Notice. If either Party is seeking indemnification under Section 14.1 or 14.2 (the **"Indemnified Party"**), it shall promptly inform the other Party (the **"Indemnifying Party"**) of the claim giving rise to the obligation to indemnify pursuant to such Section as soon as reasonably practicable after receiving notice of the claim, provided, however, that no delay on the part of the Indemnified Party in notifying the Indemnifying Party will relieve the Indemnifying Party from any obligation hereunder unless (and then only to the extent that) the Indemnifying Party is prejudiced thereby.

(b) Control. The Indemnifying Party shall have the right, exercisable by notice to the Indemnified Party within [*] Business Days after receipt of notice from the Indemnified Party of the commencement of or assertion of any Third Party Claim, to assume the direction and control of the defense, litigation, settlement, appeal or other disposition of any such claim for which it is obligated to indemnify the Indemnified Party (including the right to settle the claim solely for monetary consideration) with counsel selected by the Indemnifying Party and reasonably acceptable to the Indemnified Party; provided that (a) the Indemnifying Party has sufficient financial resources, to satisfy the amount of any adverse monetary judgment that is sought, (b) the claim seeks solely monetary damages and (c) the Indemnifying Party expressly agrees in writing that as between the Indemnifying Party and the Indemnified Party, the Indemnifying Party will be solely obligated to satisfy and discharge the claim in full (the conditions set forth in clauses (a), (b) and (c) above are collectively referred to as the "**Litigation Conditions**"). The Indemnifying Party will be entitled, at its sole cost and expense, to assume direction and control of such defense, with counsel selected by the Indemnifying Party and reasonably acceptable to the Indemnified Party. During such time as the Indemnifying Party is controlling the defense of such Third Party Claim, the Indemnified Party shall cooperate with the Indemnifying Party, and will cause its Affiliates and agents to cooperate upon request of the Indemnifying Party, in the defense or prosecution of the claim, including by furnishing such records, information and testimony and attending such conferences, discovery proceedings, hearings, trials or appeals as may reasonably be requested by the Indemnifying Party. In the event that the Indemnifying Party does not satisfy the Litigation Conditions or does not notify the Indemnified Party of the Indemnifying Party's intent to defend any Third Party Claim within [*] Business Days after notice thereof, the Indemnified Party may (without further notice to the Indemnifying Party) undertake the defense thereof with counsel of its choice and at the Indemnifying Party's expense (including reasonable, out-of-pocket attorneys' fees and costs and expenses of enforcement or defense). The Indemnifying Party or the Indemnified Party, as the case may be, shall have the right to participate (including the right to conduct discovery, interview and

examine witnesses and participate in all settlement conferences), but not control, at its own expense and with counsel of its choice, in the defense of any claim that has been assumed by the other Party.

(c) Settlement. The Indemnifying Party will not, without the prior written consent of the Indemnified Party, enter into any compromise or settlement that commits the Indemnified Party to take, or to forbear to take, any action. The Indemnified Party will have the sole and exclusive right to settle any claim, on such terms and conditions as it deems reasonably appropriate, to the extent such claim involves equitable or other non-monetary relief, but will not have the right to settle such claim to the extent such claim involves monetary damages without the prior written consent of the Indemnifying Party. Neither the Indemnifying Party nor the Indemnified Party will make any admission of liability in respect of any claim without the prior written consent of the other party, and the Indemnified Party will use reasonable efforts to mitigate Liabilities arising from such claim. If the Parties cannot agree as to the application of Section 14.1 or 14.2 as to any claim, pending resolution of such dispute, the Parties may conduct separate defenses of such claims, with each Party retaining the right to claim indemnification from the other Party in accordance with Section 14.1 or 14.2 upon resolution of the underlying claim.

14.4 Mitigation of Loss. Each Indemnified Party shall take and shall procure that its Affiliates take all such reasonable steps and action as are reasonably necessary or as the Indemnifying Party may reasonably require in order to mitigate any claims (or potential losses or damages) under this Article 14. Nothing in this Agreement shall or shall be deemed to relieve any Party of any common law or other duty to mitigate any losses incurred by it.

14.5 Limitation of Liability. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 14.5 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER SECTION 14.1 OR 14.2, OR DAMAGES AVAILABLE FOR A PARTY'S BREACH OF ITS CONFIDENTIALITY OBLIGATIONS IN ARTICLE 11.

14.6 Insurance. Each Party shall procure and maintain, during the Term, commercial general liability insurance, including product liability insurance, with minimum "A-" Best rated insurance carriers to cover its indemnification obligations under Section 14.1 or Section 14.2, as applicable, in each case with limits of not less than [*] per occurrence and in the aggregate. All deductibles and retentions will be the responsibility of the named insured. Pfizer and its Affiliates will be an additional insured on Sangamo's commercial general liability and products liability policies, and be provided with a waiver of subrogation. To the extent of its culpability, all coverages of Sangamo will be primary and non-contributing with any similar insurance, carried by Pfizer. Each Party shall provide the other Party with evidence of such insurance by furnishing a certificate of insurance upon request and shall provide the other Party with written notice at least [*] days prior to the cancellation, non-renewal or material changes in such insurance. It is understood that such insurance shall not be construed to create a limit of either Party's liability with respect to its indemnification obligations under this Article 14. Notwithstanding any provision of this Section 14.6 to the contrary, Pfizer may meet its obligations under this Section

14.6 through self-insurance. Neither Party's insurance will be construed to create a limit of liability with respect to its indemnification obligations under this Article 14.

ARTICLE 15
ANTITRUST

15.1 Approvals. Each of Sangamo and Pfizer will cooperate with the other Party and use Commercially Reasonable Efforts to make all registrations, filings and applications, to give all notices and to obtain as soon as practicable all governmental or other consents, transfers, approvals, orders, qualifications authorizations, permits and waivers, if any, and to do all other things necessary or desirable for the consummation of the transactions as contemplated hereby.

ARTICLE 16
GENERAL PROVISIONS

16.1 Force Majeure. Neither Party shall be held liable to the other Party nor be deemed to have defaulted under or breached this Agreement for failure or delay in performing any obligation under this Agreement to the extent such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party, potentially including embargoes, war, acts of war (whether war be declared or not), acts of terrorism, insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, fire, floods, earthquakes or other acts of God, or acts, generally applicable action or inaction by any governmental authority (but excluding any government action or inaction that is specific to such Party, its Affiliates or Sublicensees, such as revocation or non-renewal of such Party's license to conduct business), or omissions or delays in acting by the other Party. The affected Party shall notify the other Party in writing of such force majeure circumstances as soon as reasonably practical, and shall promptly undertake and continue diligently all Commercially Reasonable Efforts necessary to cure such force majeure circumstances or to perform its obligations in spite of the ongoing circumstances.

16.2 Assignment. This Agreement may not be assigned or otherwise transferred, nor may any right or obligation hereunder be assigned or transferred, by either Party without the prior written consent of the other Party. Notwithstanding the foregoing, subject to the provisions of Section 16.3, as applicable, either Party may, without consent of the other Party, assign this Agreement and its rights and obligations hereunder in whole or in part to an Affiliate of such Party, or in whole to its successor in interest in connection with the sale of all or substantially all of its stock or its assets to which this Agreement relates, or in connection with a merger, acquisition or similar transaction *provided that* such sale is not primarily for the benefit of its creditors. In addition, Pfizer may assign its rights and obligations under this Agreement to a Third Party where Pfizer or its Affiliate is required, or makes a good faith determination based on advice of counsel, to divest a Product in order to comply with Law or the order of any Governmental Authority as a result of a merger or acquisition. Each Party will promptly notify the other Party of any assignment or transfer under the provisions of this Section 16.2. Any attempted assignment not in accordance with the foregoing shall be null and void and of no legal effect. Any permitted assignee shall assume all assigned obligations of its assignor under this Agreement. The terms and conditions of this Agreement shall be binding upon, and shall inure to the benefit of, the Parties and their respected successors and permitted assigns.

16.3 **Notification of a Change of Control of Sangamo**. Sangamo will notify Pfizer in writing promptly (and in any event prior to the public disclosure thereof) following the entering into of a definitive agreement with respect to a Change of Control of Sangamo.

16.4 **Severability**. If any one or more of the provisions contained in this Agreement is held invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby, unless the absence of the invalidated provision(s) adversely affects the substantive rights of the Parties. The Parties shall in such an instance use their best efforts to replace the invalid, illegal or unenforceable provision(s) with valid, legal and enforceable provision(s) which, insofar as practical, implement the purposes of this Agreement.

16.5 **Notices**. All notices which are required or permitted hereunder shall be in writing and sufficient if delivered personally, sent by facsimile (and promptly confirmed by personal delivery, registered or certified mail or overnight courier), sent by nationally-recognized overnight courier or sent by registered or certified mail, postage prepaid, return receipt requested, addressed as follows:

If to Sangamo:

Sangamo Therapeutics, Inc.
501 Canal Blvd., Suite A100
Richmond, CA 94804
Attn: Chief Executive Officer
Fax: (510) 236-8951

with a copy to:

Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304
Attn: Marya Postner, Ph.D.
Fax: (650) 849-7400

If to Pfizer:

Pfizer Inc.
R&D Business Development
235 East 42nd Street
New York, New York 10017-5755
Attn: R&D BD Contract Notice

with a copy to:

Pfizer Inc.
Notices: Pfizer Legal Division
235 East 42nd Street
New York, New York 10017-5755
Attn: Chief Counsel, R&D
Fax: (646) 563-9619

and an electronic copy to:

apinvoices@pfizer.com

or to such other address(es) as the Party to whom notice is to be given may have furnished to the other Party in writing in accordance herewith. Any such notice shall be deemed to have been given: (a) when delivered if personally delivered or sent by facsimile on a Business Day (or if delivered or sent on a non-Business Day, then on the next Business Day); (b) on the Business Day after dispatch if sent by nationally-recognized overnight courier; or (c) on the [*] Business Day following the date of mailing, if sent by mail.

16.6 Dispute Resolution.

(a) Informal Dispute Resolution; Arbitration. The Parties recognize that disputes as to certain matters may from time to time arise that relate to either Party's rights and/or obligations hereunder, including the interpretation, alleged breach, enforcement, termination or validity of this Agreement (a "**Dispute**"). For clarity, Dispute shall not include matters within the JSC's authority, which shall be resolved in accordance with Section 3.7. It is the objective of the Parties to establish procedures to facilitate the resolution of such Disputes arising under this Agreement in an expedient manner by mutual cooperation. To accomplish this objective, the Parties agree that if a Dispute arises under this Agreement, and the Parties are unable to resolve such Dispute within [*] days after such Dispute is first identified by either Party in writing to the other, the Parties shall refer such Dispute to the Executive Officers of the Parties for attempted resolution by good faith negotiations within [*] days after such notice is received. If the Executive Officers are not able to resolve such Dispute within [*] days, then such Dispute (other than Excluded Claim as defined in Section 16.6(f) below) shall be finally resolved by binding arbitration administered by [*] pursuant to [*], and judgment on the arbitration award may be entered in any court having jurisdiction thereof.

(b) Number of Arbitrators; Arbitral Seat. The arbitration shall be conducted by a panel of three arbitrators experienced in the pharmaceutical business: within [*] days after initiation of arbitration, each Party shall select one person to act as arbitrator; provided that if a Party fails to appoint an arbitrator within [*] days of the arbitration being initiated, such appointment shall be made by [*]. The two arbitrators appointed in accordance with the preceding sentence shall appoint the third arbitrator, who shall be the chairman of the tribunal. If the arbitrators selected pursuant to the first sentence of this Section 16.6(b) are unable or fail to agree upon the third arbitrator within [*] days of the appointment of the second arbitrator, the third arbitrator shall be appointed by [*]. The place of arbitration shall be [*]; all proceedings and communications shall be in English.

(c) Powers of the Arbitrators. The arbitrators shall have the discretion to hear and determine at any stage of the arbitration any issue asserted by any Party to be dispositive of any claim or counterclaim, in whole or part, in accordance with such procedure as the arbitrators may deem appropriate, and the arbitrators may render an award on such issue. In addition to the authority conferred on the arbitrators by the [*] rules, and without prejudice to any provisional measures that may be available from a court of competent jurisdiction, the arbitrators shall have the power to grant any provisional measures that the arbitrators deem appropriate, including but not limited to provisional injunctive relief until the arbitration award is rendered or the controversy is otherwise resolved and any provisional measures ordered by the arbitrators may, to the extent permitted by applicable Law, be deemed to be a final award on the subject matter of the measures

and shall be enforceable as such. Either Party also may, without waiving any remedy under this Agreement, seek from any court having jurisdiction any injunctive or provisional relief necessary to protect the rights or property of that Party pending the arbitration award. The arbitrators are authorized to award to the prevailing Party, if any, as determined by the arbitrators, their costs and expenses. The arbitrators shall have no authority to award punitive or any other type of damages not measured by a Party's compensatory damages. Each Party shall bear its own costs and expenses and attorneys' fees and an equal share of the arbitrators' fees and any administrative fees of arbitration, except as provided above.

(d) Statute of Limitations. In no event shall an arbitration be initiated after the date when commencement of a legal or equitable proceeding based on the dispute, controversy or claim would be barred by the applicable Delaware statute of limitations.

(e) Confidentiality. No information concerning an arbitration, beyond the names of the Parties and the relief requested, may be unilaterally disclosed to a Third Party by any Party unless required by Law. Except to the extent necessary to confirm an award or as may be required by law, neither a Party nor an arbitrator may disclose the existence, content, or results of an arbitration without the prior written consent of both Parties. Any documentary or other evidence given by a Party or witness in the arbitration shall be treated as confidential by any Party whose access to such evidence arises exclusively as a result of its participation in the arbitration, and shall not be disclosed to any Third Party (other than a witness or expert), except as may be required by Law.

(f) Excluded Claims. As used in this Section, the term "**Excluded Claim**" shall mean a dispute, controversy or claim that concerns (i) the scope, validity, enforceability, inventorship or infringement of a patent, patent application, trademark or copyright; or (ii) any antitrust, anti-monopoly or competition law or regulation, whether or not statutory.

16.7 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware without reference to any rules of conflict of laws; provided that the United Nations Convention on Contracts for International Sale of Goods shall not apply.

16.8 Global Trade Control Laws. Parties will perform all activities under this Agreement in full compliance with all applicable economic sanctions, import, and export control laws, regulations, and orders (collectively, "**Global Trade Control Laws**").

16.9 Export Control. This Agreement is made subject to any restrictions concerning the export of products or technical information from the United States of America or other countries which may be imposed upon or related to Sangamo or Pfizer from time to time. Neither Party will knowingly transfer to the other Party any goods, software, technology, or services that are (i) controlled at a level other than EAR99, or for reasons other than anti-terrorism, under the U.S. Export Administration Regulations; (ii) controlled under the U.S. International Traffic in Arms Regulations; (iii) specifically identified as an E.U. Dual Use Item; or (iv) on an applicable export control list of a foreign country.

16.10 Restricted Markets; Restricted Parties. The Parties agree that the activities under the Agreement will not (i) be in a Restricted Market; (ii) involve individuals ordinarily resident in a Restricted Market; or (iii) include companies, organizations, or Governmental Authorities from or located in a Restricted Market. Each Party represents and warrants that neither such Party, nor any other Person, directly or indirectly, performing activities under this Agreement on such Party's behalf, are on any applicable Restricted Party Lists, and that such individuals are not employed by any Person on any of the applicable Restricted Party Lists. In the event that any of the Persons noted above, or any Third Party directly or indirectly engaged by such a Person, becomes listed on a Restricted Party List during the Term of this Agreement, the Party responsible for such Person will cease the activities that involve such Person and immediately notify the other Party. Each Party shall conduct Restricted Party Screening of the names and addresses of all employees and subcontractors invited to participate in activities under this Agreement by that Party, and shall require its subcontractors to conduct such screening of its employees and subcontractors or represent that no such subcontractor or employee is on an applicable Restricted Party List. Notwithstanding any cure periods set forth herein, both Parties acknowledge that listing of the other Party on a Restricted Party List, shall be grounds for immediate termination of this Agreement, for cause, with no cure period. For purposes of this Agreement, "**Restricted Markets**" means the Crimea region of Ukraine, Cuba, Iran, North Korea, Sudan, and Syria, and any other country that, during the Term of this Agreement, is or becomes subject to comprehensive trade sanctions by the United States and/or designated as a state sponsor of terrorism pursuant to section 6(j) of the Export Administration Act, section 40 of the Arms Export Control Act, and section 620A of the Foreign Assistance Act; "**Restricted Party Lists**" include, but are not limited to, the list of sanctioned entities maintained by the United Nations; the Specially Designated Nationals and Blocked Persons List, Foreign Sanctions Evaders List, and the Sectoral Sanctions Identifications List, as administered by the U.S. Department of the Treasury Office of Foreign Assets Control; the U.S. Denied Persons List, the U.S. Entity List, and the U.S. Unverified List, all administered by the U.S. Department of Commerce; the entities subject to restrictive measures and the Consolidated List of Persons, Groups and Entities Subject to E.U. Financial Sanctions, as implemented by the E.U. Common Foreign & Security Policy; the List of Excluded Individuals / Entities, as published by the U.S. Health and Human Services – Office of Inspector General; any lists of prohibited or debarred parties established under the U.S. Federal Food Drug and Cosmetic Act; the list of persons and entities suspended or debarred from contracting with the U.S. government; and similar applicable lists of restricted parties maintained by the Governmental Authorities of the jurisdictions of import and export; and "**Restricted Party Screening**" includes, but is not limited to, the comparison of any individual or entity directly or indirectly involved in activities under this Agreement, against the applicable Restricted Party Lists.

16.11 Termination and Blocked Payment. If this Agreement is terminated for inclusion of a Person on a Restricted Party List, Restricted Market, or Restricted Market national in activities under this Agreement without a license or other authorization required by Global Trade Control Laws or any other violation of Global Trade Control Laws, the terminating Party shall not be responsible for any payments due to the other Party, even if activities have already occurred. Further, the other Party shall be responsible for reimbursing the terminating Party for any payments due to the terminating Party under this Agreement that are blocked due to inclusion of a Person on a Restricted Party List, Restricted Market, or Restricted Market national in activities

under this Agreement without a license or other authorization required by Global Trade Control Laws or any other violation of Global Trade Control Laws.

16.12 Entire Agreement; Amendments. This Agreement, together with the Exhibits hereto, contains the entire understanding of the Parties with respect to the subject matter hereof. Any other express or implied agreements and understandings, negotiations, writings and commitments, either oral or written, with respect to the subject matter hereof are superseded by the terms of this Agreement. The Exhibits to this Agreement are incorporated herein by reference and shall be deemed a part of this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by authorized representative(s) of both Parties hereto. The Parties agree that the Confidentiality Agreement between the Parties dated as of January 4, 2017, as amended, is hereby terminated, but each Party's information that was the subject of confidentiality obligations under such Confidentiality Agreement shall been deemed to be Confidential Information of such Party under this Agreement.

16.13 Headings. The captions to the several Articles, Sections (and subsections) and Exhibits hereof are not a part of this Agreement, but are merely for convenience to assist in locating and reading the several Articles, Sections and Exhibits hereof.

16.14 Independent Contractors. It is expressly agreed that Sangamo and Pfizer shall be independent contractors and that the relationship between the two Parties shall not constitute a partnership, joint venture or agency. Neither Sangamo nor Pfizer shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other Party, without the prior written consent of the other Party. Neither Party shall report this Agreement or the relationship between the Parties as a partnership for tax purposes unless required by law.

16.15 Waiver. No provision of this Agreement will be waived by any act, omission or knowledge of a Party or its agents or employees except by an instrument in writing expressly waiving such provision and signed by a duly authorized officer of the waiving Party. The waiver by either Party hereto of any right hereunder, or of any failure of the other Party to perform, or of any breach by the other Party, shall not be deemed a waiver of any other right hereunder or of any other breach by or failure of such other Party whether of a similar nature or otherwise.

16.16 Cumulative Remedies. No remedy referred to in this Agreement is intended to be exclusive, but each shall be cumulative and in addition to any other remedy referred to in this Agreement or otherwise available under law.

16.17 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, the rule of construction that any ambiguity in this Agreement shall be construed against the drafting Party shall not apply.

16.18 Business Day Requirements. In the event that any notice or other action or omission is required to be taken by a Party under this Agreement on a day that is not a Business Day then such notice or other action or omission shall be deemed to be required to be taken on the next occurring Business Day.

16.19 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as necessary or appropriate in order to carry out the purposes and intent of this Agreement.

16.20 No Third Party Rights or Obligations. No provision of this Agreement will be deemed or construed in any way to result in the creation of any rights or obligation in any Person not a Party to this Agreement. However, Pfizer may decide, in its sole discretion, to use one or more of its Affiliates to perform its obligations and duties hereunder, *provided that* Pfizer will remain liable hereunder for the performance by any such Affiliates of any such obligations.

16.21 Counterparts. This Agreement may be executed in two or more counterparts by original signature, facsimile or PDF files, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

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IN WITNESS WHEREOF, the Parties intending to be bound have caused this Collaboration and License Agreement to be executed by their duly authorized representatives as of the Effective Date.

Sangamo Therapeutics, Inc.		**Pfizer Inc.**	
By:	/s/ Sandy Macrae	By:	/s/ Mikael Dolsten
Name:	Dr. Sandy Macrae	Name:	Mikael Dolsten, M.D., Ph.D.
Title:	President and CEO	Title:	President, Worldwide Research and Development

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit A

Licensed Patents

Reference Number	Country	Status	Title	Application	Filing Date	Publication Number	Inventors
[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]
(2 pages omitted)							

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit B

Transfer Plan

[*] (2 pages omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit C

SB-525 Development Plan

[*] (5 pages omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit D

SANGAMO THERAPEUTICS AND PFIZER ANNOUNCE COLLABORATION FOR HEMOPHILIA A GENE THERAPY

Collaboration combines Pfizer's heritage in Rare Disease, capabilities in gene therapy, and expertise in hemophilia with Sangamo's deep knowledge in genomic therapies

Richmond, Calif., May 10, 2017 – Sangamo Therapeutics, Inc. (Nasdaq: SGMO) and Pfizer Inc. (NYSE: PFE) today announced an exclusive, global collaboration and license agreement for the development and commercialization of gene therapy programs for Hemophilia A, including SB-525, one of Sangamo's four lead product candidates, which Sangamo expects will enter the clinic this quarter.

"Sangamo brings deep scientific and technical expertise across multiple genomic platforms, and we look forward to working together to advance this potentially transformative treatment for patients living with Hemophilia A," said Mikael Dolsten, MD, PhD, President of Worldwide Research and Development at Pfizer. "Pfizer has made significant investments in gene therapy over the last few years and we are building an industry-leading expertise in recombinant adeno-associated virus (rAAV) vector design and manufacturing. We believe SB-525 has the potential to be a best-in-class therapy that may provide patients with stable and durable levels of Factor VIII protein with a single administration treatment."

"With a long-standing heritage in rare disease, including hemophilia, Pfizer is an ideal partner for our Hemophilia A program," said Dr. Sandy Macrae, Sangamo's Chief Executive Officer. "We believe Pfizer's end-to-end gene therapy capabilities will enable comprehensive development and commercialization of SB-525, which could potentially benefit Hemophilia A patients around the world. This collaboration also marks an important milestone for Sangamo as we continue to make progress in the translation of our ground-breaking research into new genomic therapies to treat serious, genetically tractable diseases."

Under the terms of the collaboration agreement, Sangamo will receive a $70 million upfront payment from Pfizer. Sangamo will be responsible for conducting the SB-525 Phase 1/2 clinical study and certain manufacturing activities. Pfizer will be operationally and financially responsible for all subsequent research, development, manufacturing and commercialization activities for SB-525 and additional products, if any. Sangamo is eligible to receive potential milestone payments of up to $475 million, including up to $300 million for the development and commercialization of SB-525 and up to $175 million for additional Hemophilia A gene therapy product candidates that may be developed under the collaboration. Sangamo will also receive tiered double-digit royalties on net sales. Additionally, Sangamo will be collaborating with Pfizer on manufacturing and technical operations utilizing viral delivery vectors.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Gene therapy is a potentially transformational technology for patients, focused on highly specialized, one-time, treatments that address the root cause of diseases caused by genetic mutation. The technology involves introducing genetic material into the body to deliver a correct copy of a gene to a patient's cells to compensate for a defective one. The genetic material can be delivered to the cells by a variety of means, most frequently using a viral vector such as rAAV. There have been no gene therapy products approved in the U.S. to date.

Hemophilia A is a rare blood disorder caused by a genetic mutation resulting in insufficient activity of Factor VIII, a blood clotting protein the body uses to stop bleeding. There are approximately 16,000 patients in the U.S. and more than 150,000 worldwide with Hemophilia A. SB-525 is comprised of a rAAV vector carrying a Factor VIII gene construct driven by a proprietary, synthetic, liver-specific promoter. The U.S. Food and Drug Administration has cleared initiation of human clinical trials for SB-525, which also has been granted orphan drug designation. Sangamo is on track this quarter to start a Phase 1/2 clinical trial to evaluate safety and to measure blood levels of Factor VIII protein and other efficacy endpoints.

Conference Call
Sangamo will host a conference call today, May 10, 2017 at 5:00 p.m. ET, which will be open to the public, to discuss the details of the collaboration and the Company's first quarter business and financial results. The call will also be webcast live and can be accessed via a link the Sangamo Therapeutics website in the Investors and Media section under Events and Presentations. A replay of the webcast will also be available for one week after the call.

The conference call dial-in numbers are (877) 377-7553 for domestic callers and (678) 894-3968 for international callers. The conference ID number for the call is 15225000. For those unable to listen in at the designated time, a conference call replay will be available for one week following the conference call, from approximately 8:00 p.m. ET on May 10, 2017 to 11:59 p.m. ET on May 17, 2017. The conference call replay numbers for domestic and international callers are (855) 859-2056 and (404) 537-3406, respectively. The conference ID number for the replay is 15225000.

About Sangamo Therapeutics
Sangamo Therapeutics, Inc. is focused on translating ground-breaking science into genomic therapies that transform patients' lives using the company's industry leading platform technologies in genome editing, gene therapy, gene regulation and cell therapy. The Company is advancing Phase 1/2 clinical programs in Hemophilia A and Hemophilia B, and lysosomal storage disorders MPS I and MPS II. Sangamo has a strategic collaboration with Pfizer for Hemophilia A, with Bioverativ Inc. for hemoglobinopathies, including beta thalassemia and sickle cell disease, and with Shire International GmbH to develop therapeutics for Huntington's disease. In addition, it has established strategic partnerships with companies in non-therapeutic applications of its technology, including Sigma-Aldrich Corporation and Dow AgroSciences. For more information about Sangamo, visit the Company's website at www.sangamo.com.

Forward Looking Statements
This press release may contain forward-looking statements based on Sangamo's current expectations. These forward-looking statements include, without limitation references relating to the collaboration agreement with Pfizer, potential milestone payments and royalties under the collaboration agreement, ability of the collaboration to advance and commercialize SB-525 as a treatment for Hemophilia A, research and development of therapeutic applications of Sangamo's genomic therapy platforms, the expected timing of clinical trials of lead programs, including

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SB-525 and the release of data from these trials, the impact of Sangamo's clinical trials on the field of genetic medicine and the benefit of orphan drug status. Actual results may differ materially from these forward-looking statements due to a number of factors, including uncertainties relating to substantial dependence on the clinical success of lead therapeutic programs, the initiation and completion of stages of our clinical trials, whether the clinical trials will validate and support the tolerability and efficacy of ZFNs, technological challenges, Sangamo's ability to develop commercially viable products and technological developments by our competitors. For a more detailed discussion of these and other risks, please see Sangamo's SEC filings, including the risk factors described in its Annual Report on Form 10-K and its most recent Quarterly Report on Form 10-Q. Sangamo Therapeutics, Inc. assumes no obligation to update the forward-looking information contained in this press release.

Pfizer and Rare Disease
Rare disease includes some of the most serious of all illnesses and impacts millions of patients worldwide,[i] representing an opportunity to apply our knowledge and expertise to help make a significant impact on addressing unmet medical needs. The Pfizer focus on rare disease builds on more than two decades of experience, a dedicated research unit focusing on rare disease, and a global portfolio of multiple medicines within a number of disease areas of focus, including hematology, neuroscience, and inherited metabolic disorders.[ii]

Pfizer Rare Disease combines pioneering science and deep understanding of how diseases work with insights from innovative strategic collaborations with academic researchers, patients, and other companies to deliver transformative treatments and solutions. We innovate every day leveraging our global footprint to accelerate the development and delivery of groundbreaking medicines and the hope of cures.

Click here to learn more about our Rare Disease portfolio and how we empower patients, engage communities in our clinical development programs, and support programs that heighten disease awareness and meet the needs of patient families.

Pfizer Inc: Working together for a healthier world®
At Pfizer, we apply science and our global resources to bring therapies to people that extend and significantly improve their lives. We strive to set the standard for quality, safety and value in the discovery, development and manufacture of health care products. Our global portfolio includes medicines and vaccines as well as many of the world's best-known consumer health care products. Every day, Pfizer colleagues work across developed and emerging markets to advance wellness, prevention, treatments and cures that challenge the most feared diseases of our time. Consistent with our responsibility as one of the world's premier innovative biopharmaceutical companies, we collaborate with health care providers, governments and local communities to support and expand access to reliable, affordable health care around the world. For more than 150 years, Pfizer has worked to make a difference for all who rely on us. For more information, please visit us at www.pfizer.com. In addition, to learn more, follow us on Twitter at @Pfizer and @Pfizer_News, LinkedIn, YouTube and like us on Facebook at Facebook.com/Pfizer.

Pfizer Disclosure Notice:
The information contained in this release is as of May 10, 2017. Pfizer assumes no obligation to update forward-looking statements contained in this release as the result of new information or future events or developments.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

This release contains forward-looking information about an investigational Hemophilia A agent, SB-525, including its potential benefits, that involves substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. Risks and uncertainties include, among other things, the uncertainties inherent in research and development, including the ability to meet anticipated clinical study commencement and completion dates as well as the possibility of unfavorable study results, including unfavorable new clinical data and additional analyses of existing clinical data; risks associated with initial data, including the risk that the final results of the Phase I/2 study for SB-525 and/or additional clinical trials may be different from (including less favorable than) the initial data results and may not support further clinical development; whether and when any applications may be filed with regulatory authorities for SB-525; whether and when regulatory authorities may approve any such applications, which will depend on the assessment by such regulatory authorities of the benefit-risk profile suggested by the totality of the efficacy and safety information submitted; decisions by regulatory authorities regarding labeling and other matters that could affect the availability or commercial potential of SB-525; and competitive developments.

A further description of risks and uncertainties can be found in Pfizer's Annual Report on Form 10-K for the fiscal year ended December 31, 2016 and in its subsequent reports on Form 10-Q, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Information and Factors That May Affect Future Results", as well as in its subsequent reports on Form 8-K, all of which are filed with the U.S. Securities and Exchange Commission and available at www.sec.gov and www.pfizer.com.

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[i] Rare Disease: Facts and Statistics. http://globalgenes.org/rare-diseases-facts-statistics. Accessed September 7, 2016.
[ii] Pfizer Inc. Rare Disease. http://www.pfizer.com/health-and-wellness/health-topics/rare-diseases/areas-of-focus. Accessed December 20, 2016.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit E

Data Package Elements

[*] (2 pages omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit F

Manufacturing Tech Transfer Plan

[*] (2 pages omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit G

Specified Patents

[*] (3 pages omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit H

Work Statement #1

[*] (33 pages omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit I

Exceptions to Sangamo Representations and Warranties

[*] (1 page omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit J

Pre-clinically Developed Products and Additional Products

[*] (1 page omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit K

Current Licenses

Party	Agreement	Address	Effective Date
[*]	[*]	[*]	[*]
(1 page omitted)			

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Schedule 2.1(d)

Sangamo Third Party Agreement Provisions

[*] (4 pages omitted)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Schedule 4.9

Sangamo Subcontractors

Subcontractor	Address	Category	Description
[*]	[*]	[*]	[*]
(1 page omitted)			

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit 31.1

CERTIFICATION

I, Alexander D. Macrae, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Sangamo Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a — 15(f) and 15d — 15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2017

/s/ Alexander D. Macrae
Alexander D. Macrae
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Kathy Y. Yi, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Sangamo Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a — 15(f) and 15d — 15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2017

/s/ Kathy Y. Yi
Kathy Y. Yi
Senior Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

Certification Pursuant to 18 U.S.C. §1350, as Adopted
Pursuant to §906 of the Sarbanes-Oxley Act of 2002

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), each of the undersigned hereby certifies in his or her capacity as an officer of Sangamo Therapeutics, Inc. (the "Company"), that, to the best of his or her knowledge:

(1) the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2017, to which this Certification is attached as Exhibit 32.1 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Alexander D. Macrae
Alexander D. Macrae
President and Chief Executive Officer
(Principal Executive Officer)

Date: August 9, 2017

/s/ Kathy Y. Yi
Kathy Y. Yi
Senior Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Date: August 9, 2017