

SANGAMO BIOSCIENCES INC

Form 424B5

December 07, 2016

Table of Contents

Filed Pursuant to Rule 424(b)(5)

Registration No. 333-194126

Prospectus Supplement

(To Prospectus dated April 29, 2016)

\$75,000,000

Sangamo BioSciences, Inc.

Common Stock

We have entered into a sales agreement with Cowen and Company, LLC (Cowen), relating to shares of our common stock, \$0.01 par value per share, offered by this prospectus. In accordance with the terms of the sales agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$75,000,000.

Investing in our common stock involves a high degree of risk. See **Risk Factors** beginning on page S-6 of this prospectus supplement.

Our common stock is listed on The NASDAQ Global Market under the symbol **SGMO**. On December 6, 2016, the last reported sale price of our common stock on The NASDAQ Global Market was \$3.00 per share.

Upon our delivery of a placement notice and subject to the terms and conditions of the sales agreement, Cowen may sell our common stock by methods deemed to be an **at the market offering** as defined in Rule 415 promulgated under the Securities Act of 1933, as amended (Securities Act), including sales made directly on The NASDAQ Global Market, on any other existing trading market for our common stock or to or through a market maker. In addition, with our prior written approval, Cowen may also sell our common stock in negotiated transactions. Cowen will act as sales agent using its commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between Cowen and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

We will pay Cowen a commission, or allow a discount, for its services in acting as agent and/or principal in the sale of common stock equal to 3.0% of the gross sales price per share of all shares sold through it as agent under the sales agreement.

In connection with the sale of common stock on our behalf, Cowen may be deemed to be an **underwriter** within the meaning of the Securities Act and the compensation to Cowen will be deemed to be underwriting commissions or

discounts. We have also agreed to provide indemnification and contribution to Cowen with respect to certain liabilities, including liabilities under the Securities Act.

Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading Risk Factors beginning on page S-6 of this prospectus supplement, the sections captioned Risk Factors in our most recently filed Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, which are incorporated by reference into this prospectus supplement, and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Cowen and Company

December 7, 2016

Table of Contents

Table of Contents

Prospectus Supplement

| | |
|--|------|
| <u>About This Prospectus Supplement</u> | S-1 |
| <u>Summary</u> | S-2 |
| <u>Risk Factors</u> | S-6 |
| <u>Special Note Regarding Forward-Looking Statements</u> | S-7 |
| <u>Use Of Proceeds</u> | S-9 |
| <u>Dividend Policy</u> | S-9 |
| <u>Dilution</u> | S-10 |
| <u>Market for Common Stock</u> | S-10 |
| <u>Plan of Distribution</u> | S-12 |
| <u>Legal Matters</u> | S-13 |
| <u>Experts</u> | S-13 |
| <u>Where You Can Find More Information</u> | S-13 |
| <u>Incorporation Of Certain Documents By Reference</u> | S-14 |

Prospectus

| | |
|--|----|
| <u>About This Prospectus</u> | 1 |
| <u>Special Note Regarding Forward-Looking Statements</u> | 1 |
| <u>About Sangamo BioSciences, Inc.</u> | 2 |
| <u>Risk Factors</u> | 2 |
| <u>Use Of Proceeds</u> | 3 |
| <u>Ratio Of Earnings To Fixed Charges</u> | 3 |
| <u>Plan Of Distribution</u> | 3 |
| <u>The Securities We May Offer</u> | 5 |
| <u>Description Of Common Stock</u> | 6 |
| <u>Description Of Preferred Stock</u> | 6 |
| <u>Description Of Debt Securities</u> | 7 |
| <u>Description Of Warrants</u> | 12 |
| <u>Legal Matters</u> | 13 |
| <u>Experts</u> | 13 |
| <u>Where You Can Find More Information</u> | 14 |
| <u>Incorporation Of Certain Documents By Reference</u> | 14 |

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus dated April 29, 2016 is part of a shelf registration statement on Form S-3 we initially filed on February 25, 2014 with the Securities and Exchange Commission which became effective on the same date, and was subsequently amended and became effective on April 29, 2016. By using a shelf registration statement, we may sell shares of common stock, preferred stock, debt securities, warrants to purchase common stock and/or warrants to purchase preferred stock, as described in the accompanying prospectus, from time to time in one or more offerings, of which an aggregate of \$75 million may be sold in this offering in the form of shares of common stock.

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this common stock offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date for example, a document incorporated by reference in the accompanying prospectus the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained in this prospectus supplement or the accompanying prospectus, or incorporated by reference herein. We have not authorized, and Cowen has not authorized, anyone to provide you with information that is different. The information contained in this prospectus supplement or the accompanying prospectus, or incorporated by reference herein, is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our common stock. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled *Where You Can Find More Information* and *Incorporation of Certain Information by Reference* in this prospectus supplement and in the accompanying prospectus.

We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless otherwise stated, all references in this prospectus supplement and the accompanying prospectus to we, us, our, Sangamo, the Company and similar designations refer to Sangamo BioSciences, Inc. and its subsidiaries on a consolidated basis.

S-1

Table of Contents

SUMMARY

*This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference in this prospectus supplement. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information referred to under the heading *Risk Factors* in this prospectus supplement beginning on page S-6, the information incorporated by reference in this prospectus supplement and the accompanying prospectus, and the information included in any free writing prospectus that we have authorized for use in connection with this offering.*

Our Business

Overview

We are the leading company in the field of therapeutic genome editing which we are applying to Engineer Genetic Cures[®] for numerous gene-based diseases. As a clinical stage biopharmaceutical company we are focused on the development of gene therapies including the research, development and commercialization of engineered DNA-binding proteins for therapeutic genome editing and gene regulation. Our proprietary zinc finger DNA-binding protein (ZFP) technology enables efficient and highly specific genome editing and gene regulation and we are developing ZFP Therapeutics[®] and gene therapies for the treatment of genetic disease. 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 ZFP Therapeutic 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 ZFP nucleases (ZFNs), proteins that can be used to specifically modify DNA sequences by adding or knocking out specific genes (genome editing) and ZFP transcription factors (ZFP TFs), proteins that can be used to turn genes on or off (gene regulation). As ZFPs act at the DNA level, they potentially have broad and fundamental applications in several areas, including human therapeutics, 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 novel human therapeutics. We have initiated a Phase 1/2 study of an *in vivo* ZFN-mediated genome editing application for the treatment of hemophilia B and expect to initiate Phase 1/2 studies of similar approaches for the treatment of Mucopolysaccharidosis I (MPS I) and Mucopolysaccharidosis II (MPS II), which are lysosomal storage disorders (LSD). We also have plans to initiate a Phase 1/2 AAV Factor 8 cDNA gene therapy program for hemophilia A. In addition, we have ongoing Phase 1/2 and Phase 2 clinical programs to evaluate genome edited autologous hematopoietic stem cell and T-cell products, respectively, for the treatment of HIV/AIDS.

We have additional proprietary preclinical programs in hemophilia A and other LSDs and research stage programs in other monogenic diseases, certain central nervous system (CNS) disorders and cancer immunotherapy.

We have established a strategic collaboration with Bioverativ, the planned spin-off company of Biogen, Inc., for rare blood disorders, for the development of ZFP Therapeutics for hemoglobinopathies, including sickle cell disease and beta-thalassemia. We also have a collaborative partnership with Shire International GmbH, formerly Shire AG, to research, develop and commercialize our preclinical ZFP Therapeutic development program in Huntington's disease.

We have entered into strategic partnerships in fields outside human therapeutics to facilitate the sale or licensing of our ZFP platform. We have a license agreement with Sigma-Aldrich Corporation (Sigma). Under this agreement, Sigma has the exclusive rights to develop and market ZFP-based laboratory research reagents marketed

S-2

Table of Contents

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 (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 December 5, 2016, we either owned outright or have exclusively licensed the commercial rights to approximately 751 patents issued in the United States and foreign national jurisdictions, and we had 675 patent applications owned and licensed 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 ZFP technology across our chosen applications.

In the development of our ZFP technology platform, we are focusing our resources on higher-value ZFP Therapeutic product development and less on our non-therapeutic applications. Development of novel therapeutic products is costly and is subject to a lengthy and uncertain regulatory process at the 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.

Risk Factors

An investment in our common stock is subject to a number of risks and uncertainties. Before investing in our common stock, you should carefully consider the following, as well as the more detailed discussion of risk factors and other information included in this prospectus supplement:

ZFP Therapeutics have undergone limited testing in humans and our ZFP Therapeutics may fail safety studies in clinical trials;

Our progress in early Phase 1 and Phase 2 trials may not be indicative of long-term efficacy in late stage clinical trials;

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;

While we have stated that we intend to file IND applications for several ZFP Therapeutic programs in the future, we may encounter difficulties that may delay, suspend or scale back our efforts;

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

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 have limited experience in conducting clinical trials;

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

We may not find partners in the future to develop our technologies or products or our partners may not diligently pursue our product development efforts.

Company and Other Information

Our principal offices are located at 501 Canal Boulevard, Richmond, California, 94804, and our telephone number there is (510) 970-6000. Our website address is www.sangamo.com. We do not incorporate the

Table of Contents

information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus. For further information regarding us and our financial information, you should refer to our recent filings with the Securities and Exchange Commission. See [Where You Can Find More Information](#) and [Incorporation of Certain Documents by Reference](#).

ZFP Therapeutics® is a registered trademark of Sangamo BioSciences, Inc. This prospectus supplement and the accompanying prospectus and information incorporated by reference into this prospectus supplement and the accompanying prospectus also contain trademarks and trade names that are the property of their respective owners.

S-4

Table of Contents

THE OFFERING

| | |
|---|---|
| Common stock offered by us in this offering | Shares having an aggregate offering price of up to \$75,000,000. |
| Manner of offering | At the market offering that may be made from time to time through our sales agent, Cowen and Company, LLC. See Plan of Distribution on page S-12. |
| Use of proceeds | We intend to use the net proceeds from this offering for working capital and other general corporate purposes, including support for our continuing research and development of our ZFP Therapeutic product candidates and other research programs, commercialization activities, clinical trials, business development activities and, if opportunities arise, acquisitions of businesses, products, technologies or licenses that are complementary to our business. See Use of Proceeds on page S-9. |
| Risk factors | You should carefully read Risk Factors on page S-6 in this prospectus for a discussion of factors that you should consider before deciding to invest in our common stock. |
| NASDAQ Global Market symbol | SGMO |

Table of Contents

RISK FACTORS

An investment in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should consider carefully the risks described below and the risk factors incorporated by reference herein from our filings with the Securities and Exchange Commission, including our Annual Report on Form 10-K for the year ended December 31, 2015 and our Quarterly Reports on Forms 10-Q, together with other information in this prospectus supplement, the accompanying prospectus, the information and documents incorporated by reference, and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business.

Risks Related to This Offering

Management will have broad discretion as to the use of the net proceeds from this offering, and we may not use the proceeds effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. Our failure to apply these funds effectively could have a material adverse effect on our business, delay the development of our product candidates and cause the price of our common stock to decline.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

Since the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. Based on the assumed public offering of 25,000,000 shares at the assumed price of \$3.00 per share (the closing sales price on The NASDAQ Global Market on December 6, 2016), and without deducting underwriting discounts and commissions but after deducting estimated offering expenses payable by us, and based on a net tangible book value of our common stock of \$2.01 per share as of September 30, 2016, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$0.73 per share in the net tangible book value of common stock. See the section entitled "Dilution" below for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

Future transactions where we raise capital may negatively affect our stock price.

We currently have the ability to offer and sell additional equity, debt securities and warrants to purchase such securities, either individually or in units, under an effective automatic shelf registration statement. Sales of substantial amounts of shares of our common stock or other securities under our shelf registration statements could lower the market price of our common stock and impair our ability to raise capital through the sale of equity securities. In the future, we may issue additional options, warrants or other derivative securities convertible into our common stock.

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

During the three months ended September 30, 2016, the closing price of our common stock, as reported by the NASDAQ Global Market, ranged from a low of \$4.13 to high of \$6.84. During the fiscal year ended December 31, 2015, our common stock price fluctuated, ranging from a low of \$5.56 to a high of \$18.54. Volatility in our common stock 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:

S-6

Table of Contents

Announcement by us or collaborators providing updates on the progress or development status of ZFP Therapeutics and our gene therapy products;

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 Sangamo's 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.

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;

our intellectual property position;

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 view 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 our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, and we urge you to review such reports before making any investment decision. Sangamo undertakes no obligation to publicly release any revisions to forward-looking statements to reflect events or circumstances arising after the date of this prospectus supplement. Readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this prospectus supplement.

Table of Contents

ZFP Therapeutic® and Engineering Genetic Cures® are registered trademarks of Sangamo BioSciences, Inc. This report also contains trademarks and trade names that are the property of their respective owners

S-8

Table of Contents

USE OF PROCEEDS

We intend to use the net proceeds from this offering for working capital and other general corporate purposes, including support for our continuing research and development of our ZFP Therapeutic product candidates and other research programs, commercialization activities, clinical trials, business development activities, and, if opportunities arise, acquisitions of businesses, products, technologies or licenses that are complementary to our business.

The amounts and timing of the expenditures may vary significantly, depending upon numerous factors, including our proprietary research and therapeutic programs and our clinical trials as well as the amount of cash used in our operations. Accordingly, our management will have broad discretion in the application of the net proceeds and investors will be relying upon the judgment of our management regarding the application of these proceeds. We reserve the right to change the use of these proceeds.

Pending these uses, we intend to invest the proceeds of this offering in short-term, investment grade interest -bearing securities.

DIVIDEND POLICY

We have not paid dividends on our common stock, and currently do not plan to pay any cash dividends in the foreseeable future.

Table of Contents**DILUTION**

If you purchase our common stock in this offering, your interest will be diluted to the extent of the difference between the offering price per share and the net tangible book value per share of our common stock after this offering. Our net tangible book value as of September 30, 2016 was approximately \$142.3 million, or \$2.01 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of September 30, 2016. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering.

After taking into account the assumed sale by us of 25,000,000 shares of our common stock in this offering at the assumed public offering price of \$3.00 per share, the closing price on The NASDAQ Global Market on December 6, 2016, without any deduction for underwriting discounts and commissions but after deducting estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2016 would have been approximately \$217 million, or \$2.27 per share. This would represent an immediate increase in net tangible book value of \$0.26 per share to existing stockholders and in immediate dilution of \$0.73 per share to investors purchasing our common stock in this offering at the assumed public offering price. The following table illustrates this dilution on a per share basis:

| | |
|---|---------|
| Assumed public offering price per share | \$ 3.00 |
| Net tangible book value per share as of September 30, 2016 | \$ 2.01 |
| Increase in net tangible book value per share after this offering | \$ 0.26 |
| Net tangible book value per share after this offering | \$ 2.27 |
| Dilution per share to new investors | \$ 0.73 |

The table above assumes for illustrative purposes that an aggregate of 25,000,000 shares of our common stock are sold at a price of \$3.00 per share, the last reported sale price of our common stock on The NASDAQ Global Market on December 6, 2016, for aggregate gross proceeds of approximately \$75,000,000. The shares sold in this offering, if any, will be sold from time to time at various prices to be determined by the Company.

The number of shares of common stock to be outstanding immediately after this offering used to calculate dilution above assumes that all of the shares offered hereby are sold and is based on 70,621,837 shares of common stock outstanding as of September 30, 2016. This number of shares excludes:

8,951,908 shares of common stock issuable upon exercise of options outstanding as of September 30, 2016, of which 5,788,782 shares are exercisable under our 2013 Stock Incentive Plan, at a weighted average exercise price of \$8.48 per share; and

607,819 shares of common stock issuable upon settlement of outstanding restricted stock units; and
To the extent that any outstanding options are exercised, new options are issued under our 2013 Stock Incentive Plan or we otherwise issue additional shares of common stock in the future, there will be further dilution to new investors.

MARKET FOR COMMON STOCK

Our shares of common stock are traded on The NASDAQ Global Market under the symbol SGMO. The transfer agent for our shares of common stock to be issued in this offering is Computershare. The following table sets forth, for the periods indicated, the high and low intraday sales pricing of our common stock as reported by The NASDAQ Global Market.

| | 2014 | |
|----------------|-------------|------------|
| | High | Low |
| First Quarter | 23.86 | 13.25 |
| Second Quarter | 17.95 | 11.71 |
| Third Quarter | 16.40 | 10.77 |
| Fourth Quarter | 16.53 | 9.85 |

S-10

Table of Contents

| | 2015 | |
|----------------|-------------|------------|
| | High | Low |
| First Quarter | 18.54 | 12.64 |
| Second Quarter | 15.56 | 10.35 |
| Third Quarter | 10.86 | 5.64 |
| Fourth Quarter | 9.69 | 5.56 |

| | 2016 | |
|----------------|-------------|------------|
| | High | Low |
| First Quarter | 8.95 | 4.91 |
| Second Quarter | 7.50 | 5.14 |
| Third Quarter | 6.84 | 4.13 |

On December 6, 2016, the closing price for the common stock as reported on The NASDAQ Global Market was \$3.00.

As of September 30, 2016, there were approximately 59 stockholders of record, which excludes stockholders whose shares were held in nominee or street name by brokers.

Table of Contents

PLAN OF DISTRIBUTION

We have entered into a sales agreement with Cowen under which we may issue and sell shares of our common stock having an aggregate gross sales price of up to \$75,000,000 from time to time through Cowen acting as agent. The sales agreement is filed as an exhibit to our Current Report on Form 8-K dated December 7, 2016 and is incorporated by reference to this prospectus supplement.

Upon delivery of a placement notice and subject to the terms and conditions of the sales agreement, Cowen may sell our common stock by any method permitted by law deemed to be an at-the-market offering as defined in Rule 415 promulgated under the Securities Act, including sales made directly on the Nasdaq Global Market, on any other existing trading market for our common stock or to or through a market maker. Cowen may also sell our common stock by any other method permitted by law, including in privately negotiated transactions. We may instruct Cowen not to sell common stock if the sales cannot be effected at or above the price designated by us from time to time. We or Cowen may suspend the offering of common stock upon notice and subject to other conditions.

Each time we wish to issue and sell common stock under the sales agreement, we will notify Cowen of the number of shares to be issued, the dates on which such sales are anticipated to be made, any minimum price below which sales may not be made and other sales parameters as we deem appropriate. Once we have so instructed Cowen, unless Cowen declines to accept the terms of the notice, Cowen has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such shares up to the amount specified on such terms. The obligations of Cowen under the sales agreement to sell our common stock are subject to a number of conditions that we must meet.

We will pay Cowen commissions, in cash, for its services in acting as agent in the sale of our common stock. Cowen will be entitled to compensation at a fixed commission rate equal to 3% of the gross sales price per share sold. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse Cowen for certain specified expenses, including the fees and disbursements of its legal counsel, in an amount not to exceed \$50,000. We estimate that the total expenses for the offering, excluding discounts and commissions payable to Cowen under the terms of the sales agreement, will be approximately \$240,000.

Settlement for sales of common stock will generally occur on the third business day following the date on which any sales are made, or on some other date that is agreed upon by us and Cowen in connection with a particular transaction, in return for payment of the net proceeds to us. Sales of our common stock as contemplated in this prospectus supplement will be settled through the facilities of The Depository Trust Company or by such other means as we and Cowen may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

Cowen will use its commercially reasonable efforts, consistent with its sales and trading practices, to solicit offers to purchase the common stock under the terms and subject to the conditions set forth in the sales agreement. In connection with the sale of the common stock on our behalf, Cowen may be deemed to be an underwriter within the meaning of the Securities Act and the compensation of Cowen will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to Cowen against certain civil liabilities, including liabilities under the Securities Act.

The offering of our common stock pursuant to the sales agreement will terminate upon the earlier of (1) the sale of all shares of our common stock subject to the sales agreement, or (2) termination of the sales agreement as permitted therein. We and Cowen may each terminate the sales agreement at any time upon 10 days prior notice.

Cowen and its affiliates may in the future provide various investment banking, commercial banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees. To the extent required by Regulation M, Cowen will not engage in any market making activities involving our common stock while the offering is ongoing under this prospectus supplement.

S-12

Table of Contents

LEGAL MATTERS

The legality of the common stock offered by this prospectus supplement has been passed upon for us by Morgan, Lewis & Bockius LLP, San Francisco, California. Cowen and Company, LLC is being represented in connection with this offering by Proskauer Rose LLP, New York, New York.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2015, and the effectiveness of our internal control over financial reporting as of December 31, 2015, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a shelf registration statement with the Securities and Exchange Commission, or the Commission, covering the shares of common stock we are offering under this prospectus supplement. This prospectus supplement and the accompanying prospectus do not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus supplement, we refer you to the registration statement and the exhibits and schedules filed as part of the registration statement.

We file annual, quarterly and current reports, proxy statements and other information with the Commission. You may read and copy any document we file at the Commission's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the Commission at 1-800-SEC-0330 for further information on the Public Reference Room. Our public filings, including reports, proxy and information statements, are also available on the Commission's web site at <http://www.sec.gov>. We maintain a website at www.sangamo.com. The information contained on our website is not incorporated by reference in this prospectus supplement or the accompanying prospectus, and you should not consider it a part of this prospectus supplement or the accompanying prospectus.

Table of Contents

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The Commission allows us to incorporate by reference information from other documents that we file with them, which means that we can disclose important information by referring to those documents. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus, and information that we file later with the Commission will automatically update and supersede this information. We incorporate by reference into this prospectus supplement and the accompanying prospectus the documents listed below, and any future filings (other than the portions thereof deemed to be furnished to the Commission pursuant to Item 2.02 or Item 7.01 of Current Report on Form 8-K) we make with the Commission under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, prior to the termination of this offering:

our annual report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 18, 2016;

our quarterly report on Form 10-Q for the quarters ended September 30, 2016, June 30, 2016 and March 31, 2016, filed with the Commission on October 27, 2016, August 4, 2016 and May 5, 2016, respectively;

our current reports on Form 8-K filed with the SEC on December 7, 2016, October 18, 2016, July 8, 2016, June 15, 2016, June 1, 2016 and March 18, 2016;

our definitive proxy statement filed in connection with our 2016 Annual Meeting of Stockholders filed with the Commission on April 25, 2016; and

the description of our common stock contained in our registration statement on Form 8-A filed under Section 12(g) of the Securities Exchange Act of 1934, as amended, with the Commission on March 31, 2000, including any amendment or reports filed for the purpose of updating such description.

To the extent that any statement in this prospectus supplement or the accompanying prospectus is inconsistent with any statement that is incorporated by reference and that was made on or before the date of this prospectus supplement or the accompanying prospectus, the statement in this prospectus supplement or the accompanying prospectus shall supersede such incorporated statement. The incorporated statement shall not be deemed, except as modified or superseded, to constitute a part of this prospectus supplement, the accompanying prospectus or the registration statement. Statements contained in this prospectus supplement and the accompanying prospectus as to the contents of any contract or other document are not necessarily complete and, in each instance, we refer you to the copy of each contract or document filed as an exhibit to the registration statement.

We will furnish without charge to each person, including any beneficial owner of our securities, to whom a copy of this prospectus supplement and the accompanying prospectus is delivered, upon written or oral request, a copy of the information that has been incorporated into this prospectus supplement and the accompanying prospectus by reference (except exhibits, unless they are specifically incorporated into this prospectus supplement and the accompanying prospectus by reference). You should direct any requests for copies to:

Sangamo BioSciences, Inc.

501 Canal Boulevard, Suite A100 Richmond, CA 94804

Attention: Investor Relations

(510) 970-6000

S-14

Table of Contents

PROSPECTUS

SANGAMO BIOSCIENCES, INC.

\$100,000,000

Common Stock

Preferred Stock

Debt Securities

Warrants to Purchase Common Stock

Warrants to Purchase Preferred Stock

We may offer and sell from time to time shares of common stock, shares of preferred stock, debt securities or warrants to purchase shares of common stock or shares of preferred stock. We may sell any combination of the above described securities, in one or more offerings in amounts, at prices and on terms determined at the time of the offering. We refer to the shares of common stock, shares of preferred stock, debt securities and warrants to purchase shares of common stock or shares of preferred stock collectively as the securities.

This prospectus provides you with a general description of the securities that we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add information or update information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the documents incorporated by reference and described under the heading **Where You Can Find More Information** before you make your investment decision.

We will sell the securities to underwriters or dealers, through agents, or directly to investors.

An investment in the securities offered under this prospectus involves a high degree of risk. You should carefully consider the risk factors described in the applicable prospectus supplement and certain of our filings with the Securities and Exchange Commission, as described under Risk Factors on page 2.

Our common stock trades on The NASDAQ Global Select Market under the symbol SGMO. On February 17, 2016, the last reported sale price of our common stock on The NASDAQ Global Select Market was \$5.63.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to

the contrary is a criminal offense.

The date of this prospectus is April 29, 2016

Table of Contents

TABLE OF CONTENTS

| | |
|--|----|
| <u>ABOUT THIS PROSPECTUS</u> | 1 |
| <u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u> | 1 |
| <u>ABOUT SANGAMO BIOSCIENCES, INC.</u> | 2 |
| <u>RISK FACTORS</u> | 2 |
| <u>USE OF PROCEEDS</u> | 3 |
| <u>RATIO OF EARNINGS TO FIXED CHARGES</u> | 3 |
| <u>PLAN OF DISTRIBUTION</u> | 3 |
| <u>THE SECURITIES WE MAY OFFER</u> | 5 |
| <u>DESCRIPTION OF COMMON STOCK</u> | 6 |
| <u>DESCRIPTION OF PREFERRED STOCK</u> | 6 |
| <u>DESCRIPTION OF DEBT SECURITIES</u> | 7 |
| <u>DESCRIPTION OF WARRANTS</u> | 12 |
| <u>LEGAL MATTERS</u> | 13 |
| <u>EXPERTS</u> | 13 |
| <u>WHERE YOU CAN FIND MORE INFORMATION</u> | 14 |
| <u>INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE</u> | 14 |

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a shelf registration statement we filed with the Securities and Exchange Commission, or the SEC. By using a shelf registration statement, we may sell any combination of securities described in this prospectus from time to time for an aggregate offering price of up to \$100,000,000.

You should rely only on the information contained in or specifically incorporated by reference into this prospectus or a prospectus supplement. No dealer, sales person, agent or other individual has been authorized to give any information or to make any representations not contained in this prospectus. If given or made, such information or representations must not be relied upon as having been authorized by us.

This prospectus does not constitute an offer to sell, or a solicitation of an offer to buy, the securities offered hereby in any jurisdiction where, or to any person to whom, it is unlawful to make such offer or solicitation.

The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of securities. Neither the delivery of this prospectus nor any sale made hereunder shall, under any circumstances, create an implication that there has not been any change in the facts set forth in this prospectus or in our affairs since the date of this prospectus.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some statements contained in this prospectus and the information incorporated by reference into this prospectus are forward-looking with respect to our operations, research, development and commercialization activities and financial condition. Such forward-looking statements are based on our current views and assumptions regarding future events, future business conditions and the outlook for the company based on currently available information. Statements that are forward-looking in nature should be read with caution because they involve risks and uncertainties, which are included, for example, in specific and general discussions 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. Various terms and expressions similar to them are intended to identify these cautionary statements. These terms include: anticipates, believes, continues, could, estimates, expects, intends, may, plans, seeks, sl results may differ materially from those expressed or implied in those statements. Factors that could cause these differences include, but are not limited to, those discussed under Risk Factors. Sangamo undertakes no obligation to publicly release any revisions to forward-looking statements to reflect events or circumstances arising after the date of this prospectus. Readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this prospectus.

Table of Contents

ZFP Therapeutic® and Engineering Genetic Cures® are a registered trademarks of Sangamo BioSciences, Inc. This report also contains trademarks and trade names that are the property of their respective owners

ABOUT SANGAMO BIOSCIENCES, INC.

We are a clinical stage biopharmaceutical company focused on the research, development and commercialization of engineered DNA-binding proteins for therapeutic genome editing and gene regulation, and we are leaders in this field. Our proprietary zinc finger DNA-binding (ZFP) technology enables precise and highly specific genome editing and gene regulation and we are developing ZFP Therapeutics, novel therapeutic products for the treatment of genetic disease. We have several proprietary clinical and preclinical programs in development and have strategically partnered certain programs with biopharmaceutical companies to expedite clinical and commercial development. Our long-term goal is to integrate manufacturing, development and commercial operations to capture the value of our proprietary ZFP Therapeutic products.

We, and our licensed partners, are the leaders in the research, development and commercialization of zinc finger DNA-binding proteins, 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 ZFP nucleases (ZFNs), proteins that can be used to specifically modify DNA sequences by adding or knocking out specific genes (genome editing) and ZFP transcription factors (ZFP TFs), proteins that can be used to turn genes on or off (gene regulation). As ZFPs act at the DNA level, they potentially have broad and fundamental applications in several areas including human therapeutics, plant agriculture and research reagents, as well as production of transgenic animals and cell-line engineering.

The main focus for our company is the development of novel human therapeutics. Our lead ZFP Therapeutic, SB-728, a ZFN-modified autologous cell product for the treatment of HIV/AIDS, is the first therapeutic application of our ZFN genome editing technology and is being evaluated in an ongoing Phase 2 study of ZFN-modified T-cells (SB-728-T-1101, Cohort 3*) and a Phase 1/2 study of modified hematopoietic stem cells (SB-728-mR-HSC) in HIV-infected subjects. We are also initiating Phase 1/2 studies of in vivo genome editing applications of ZFP Therapeutics for hemophilia B and MPS I, a lysosomal storage disorder (LSD). In addition, we have proprietary preclinical programs in hemophilia A and other LSDs and research stage programs in other monogenic diseases, including certain central nervous system (CNS) disorders, and cancer immunotherapy.

We have established a collaborative partnership with Biogen Inc. to research, develop and commercialize our preclinical ZFP Therapeutic development program in hemoglobinopathies, including sickle cell disease and beta-thalassemia. We also have a collaborative partnership with Shire International GmbH, formerly Shire AG, to research, develop and commercialize our preclinical ZFP Therapeutic development program in Huntington's disease.

We believe the potential commercial applications of ZFPs are broad-based and we have entered into strategic partnerships in fields outside human therapeutics to facilitate the sale or licensing of our ZFP platform. We have a license agreement with the research reagent company Sigma-Aldrich Corporation. Under this agreement, Sigma has the exclusive rights to develop and market high value 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, 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.

Our principal offices are located at 501 Canal Boulevard, Richmond, California 94804, and our telephone number there is (510) 970-6000.

RISK FACTORS

*An investment in the securities offered through this prospectus involves certain risks. You should carefully consider the specific risks set forth under the caption **Risk Factors** in the applicable prospectus supplement and*

Table of Contents

under the caption Risk Factors in our filings with the Securities and Exchange Commission pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, incorporated by reference herein, before making an investment decision. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently consider immaterial may also affect our business operations. To the extent that a particular offering implicates additional significant risks, we will include a discussion of those risks in the applicable prospectus supplement.

USE OF PROCEEDS

Except as may be otherwise set forth in the prospectus supplement accompanying this prospectus, we will use the net proceeds we receive from sales of the securities offered hereby for general corporate purposes, including support for our continuing research and development, preclinical and clinical trial activities, commercialization activities, business development activities, and, if opportunities arise, acquisitions of businesses, products, technologies or licenses that are complementary to our business, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus.

RATIO OF EARNINGS TO FIXED CHARGES

The following summary is qualified by the more detailed information appearing in the computation table found in Exhibit 12.1 to the registration statement of which this prospectus is part and the historical financial statements, including the notes to those financial statements, incorporated by reference in this prospectus. The following table sets forth our ratio of earnings to fixed charges for each of the periods indicated:

| | Year Ended December 31 | | | | |
|---|-------------------------------|-------------|-------------|-------------|-------------|
| | 2015 | 2014 | 2013 | 2012 | 2011 |
| Ratio of earnings to fixed charges (1) | N/A (2) | N/A (2) | N/A (2) | N/A (2) | N/A (2) |

- (1) The ratio of earnings to fixed charges was computed by dividing earnings by fixed charges. For this purpose, earnings consist of net loss before fixed charges. Fixed charges consist of interest expense on outstanding lease liabilities, interest expense, amortization of debt expense and discount or premium related to indebtedness, whether expensed or capitalized.
- (2) Earnings were insufficient to cover fixed charges for these periods. We have not included a ratio of earnings to combined fixed charges and preferred stock dividends because we do not have any preferred stock outstanding as of the date of this prospectus. The amount of the coverage deficiency was \$46.4 million, \$26.4 million, \$26.6 million, \$22.3 million and \$35.8 million for the years ended December 31, 2015, 2014, 2013, 2012 and 2011, respectively.

PLAN OF DISTRIBUTION

We may sell the securities being offered by us in this prospectus:

directly to purchasers or investors;

through agents;

through dealers;

through underwriters; or

through a combination of any of these methods of sale.

We and our agents and underwriters may sell the securities being offered by us in this prospectus from time to time in one or more transactions:

at a fixed price or prices which may be changed;

Table of Contents

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

Offers to purchase securities may be solicited directly by us, or by agents designated by us, from time to time. Any such agent, which may be deemed to be an underwriter as that term is defined in the Securities Act of 1933, as amended (the Securities Act), involved in the offer or sale of the securities in respect of which this prospectus is delivered will be named, and any commissions payable by us to such agent will be set forth, in the applicable prospectus supplement.

If an underwriter is, or underwriters are, utilized in the offer and sale of securities in respect of which this prospectus and the accompanying prospectus supplement are delivered, we will execute an underwriting agreement with such underwriter(s) for the sale to it or them and the name(s) of such underwriter(s) and the terms of the transaction, including any underwriting discounts, commissions and other items constituting compensation of the underwriters and dealers, if any, will be set forth in such prospectus supplement, which will be used by the underwriter(s) to make resales of the securities in respect of which this prospectus and such prospectus supplement are delivered to the public. The securities will be acquired by the underwriters for their own accounts and may be sold by the underwriters from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Any public offering price and any discounts, commissions or concessions allowed or reallocated or paid to dealers may be changed from time to time. We may grant underwriters who participate in the distribution of securities an option to purchase additional securities to cover over-allotments, if any, in connection with the distribution.

We may sell directly to, and solicit offers from institutional investors, individuals, or the public. We will describe the terms of any such sales in the applicable prospectus supplement relating to the offering.

If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale. The name of the dealer and the terms of the transaction will be identified in the applicable prospectus supplement relating to the offering.

If an agent is used in an offering of securities being offered by this prospectus, the agent will be named, and the terms of the agency will be described, in the applicable prospectus supplement relating to the offering. Unless otherwise indicated in the prospectus supplement, an agent will act on a best efforts basis for the period of its appointment.

If indicated in the applicable prospectus supplement, we will authorize underwriters or their agents to solicit offers by certain institutional investors to purchase our securities pursuant to contracts providing for payment and delivery at a future date. Institutional investors with which these contracts may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and others. In all cases, these purchasers must be approved by us. The obligations of any purchaser under any of these contracts will not be subject to any conditions except that (a) the purchase of the securities must not at the time of delivery be prohibited under the laws of any jurisdiction to which that purchaser is subject and (b) if the securities are also being sold to underwriters, we must have sold to these underwriters the securities not subject to delayed delivery. Underwriters and other agents will not have any responsibility in respect of the validity or performance of these contracts.

Certain of the underwriters, dealers or agents utilized by us in any offering may be customers of, including borrowers from, engage in transactions with, and perform services for us or one or more of our affiliates in the ordinary course of business. Underwriters, dealers, agents and other persons may be entitled, under agreements which may be entered into with us, to indemnification against and contribution toward certain civil liabilities, including liabilities under the Securities Act. The terms of any indemnification provisions will be set forth in a prospectus supplement.

Table of Contents

Until the distribution of the securities is completed, rules of the Securities and Exchange Commission may limit the ability of the underwriters and certain selling group members, if any, to bid for and purchase the securities. As an exception to these rules, the representatives of the underwriters, if any, are permitted to engage in certain transactions that stabilize the price of the securities in accordance with Regulation M, but only in the case of a fixed-price offering. Such transactions may consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of the securities.

If underwriters create a short position in the securities in connection with the offering thereof (i.e., if they sell more securities than are set forth on the cover page of the applicable prospectus supplement), the representatives of such underwriters may reduce that short position by purchasing securities in the open market. Any such representatives also may elect to reduce any short position by exercising all or part of any over-allotment option described in the applicable prospectus supplement.

Any such representatives also may impose a penalty bid on certain underwriters and selling group members. This means that if the representatives purchase securities in the open market to reduce the underwriters' short position or to stabilize the price of the securities, they may reclaim the amount of the selling concession from the underwriters and selling group members who sold those shares as part of the offering thereof.

In general, purchases of a security for the purpose of stabilization or to reduce a syndicate short position could cause the price of the security to be higher than it might otherwise be in the absence of such purchases. The imposition of a penalty bid might have an effect on the price of a security to the extent that it were to discourage resales of the security by purchasers in the offering.

Neither we nor any of the underwriters, if any, makes any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of the securities. In addition, neither we nor any of the underwriters, if any, makes any representation that the representatives of the underwriters, if any, will engage in such transactions or that such transactions, once commenced, will not be discontinued without notice.

Each series of securities covered by this prospectus would be a new issue with no established trading market, other than our common stock which is listed on The NASDAQ Global Select Market. Any shares of common stock sold pursuant to a prospectus supplement will be listed on The NASDAQ Global Select Market or a stock exchange on which the common stock offered is then listed, subject (if applicable) to an official notice of issuance. Any underwriters for whom securities are sold by us for public offering and sale may make a market in the securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. The securities other than the common stock may or may not be listed on a national securities exchange or eligible for quotation or trading on The NASDAQ Global Select Market. Therefore, we cannot provide any assurance to you concerning the liquidity of any of the securities covered by this prospectus.

Under the securities laws of some states, the securities registered by the registration statement that includes this prospectus may be sold in those states only through licensed brokers or dealers.

The anticipated date of delivery of the securities offered by this prospectus will be described in the applicable prospectus supplement relating to the offering. The securities offered by this prospectus may or may not be listed on a national securities exchange or a foreign securities exchange. We cannot give any assurances that there will be a market for any of the securities offered by this prospectus and any prospectus supplement.

THE SECURITIES WE MAY OFFER

The descriptions of the securities contained in this prospectus, together with the applicable prospectus supplement, summarize the material terms and provisions of the various types of securities that we may offer. We will describe in the applicable prospectus supplement relating to any securities the particular terms of the securities offered by that prospectus supplement. If we so indicate in a prospectus supplement, the terms of the securities may revise, amend, modify or supersede the terms we have summarized below. We will also include in the prospectus supplement information, where applicable, about material United States federal income tax considerations relating to the securities, and the securities exchange or market, if any, on which the securities will be listed or quoted.

Table of Contents

We may sell from time to time, in one or more offerings, one or more of the following securities:

common stock;

preferred stock;

debt securities;

warrants to purchase common stock; and

warrants to purchase preferred stock.

These securities may be offered and sold from time to time for an aggregate offering price not to exceed \$100,000,000.

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

DESCRIPTION OF COMMON STOCK

For a description of the material terms and provisions of our common stock and each other class of our securities which qualifies or limits our common stock, please see the applicable prospectus supplement, as well as the description of our capital stock in our Registration Statement on Form 8-A dated March 31, 2000 which is incorporated by reference in this prospectus.

DESCRIPTION OF PREFERRED STOCK

Under Delaware law and our certificate of incorporation, our board of directors is authorized, without stockholder approval, to issue shares of preferred stock from time to time in one or more series. Our board of directors may fix the rights, preferences, privileges and restrictions of this stock. Some of the rights, preferences and privileges that our board of directors may designate include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences and sinking fund terms. Our board of directors may determine the number of shares constituting any series or the designation of such series. Any or all of the rights, preferences and privileges selected by the board of directors may be greater than the rights of the common stock.

If we offer a specific series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the applicable prospectus supplement and will file a copy of the certificate of designation establishing the terms of the preferred stock with the SEC. To the extent required or applicable, this description will include:

the title and stated value;

the number of shares offered, the liquidation preference per share and the offering price;

the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;

whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends accumulate;

the provisions for any sinking fund, if any;

the provisions for redemption, if any;

any listing of the preferred stock on any securities exchange or market;

Table of Contents

whether preferred stock will be convertible into or exchangeable for our common stock or other of our securities, and, if applicable, the conversion or exchange price (or how it will be calculated) and conversion or exchange period;

voting rights, if any;

if appropriate, a discussion of any applicable U.S. federal income tax considerations;

the relative ranking and preference of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the affairs of Sangamo; and

any other specific terms, preferences, rights, limitations or restrictions.

The transfer agent and registrar for any class or series of preferred stock will be set forth in the applicable prospectus supplement.

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus, but is not complete. We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any future debt securities we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities we offer under a prospectus supplement may revise, amend, modify or supersede the terms we describe below. As of the date of this prospectus, we have no outstanding registered debt securities. Unless the context requires otherwise, whenever we refer to the indentures, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue any senior debt securities under the senior indenture that we will enter into with the trustee named in the senior indenture. We will issue any subordinated debt securities under the subordinated indenture that we will enter into with the trustee named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement, of which this prospectus is a part, and supplemental indentures. Forms of debt securities containing the terms of the debt securities being offered, and other related documents will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The indentures and the trustee will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We use the term trustee to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements related to the debt securities that we may offer under this prospectus, as well as the complete indentures that contains the

terms of the debt securities. Except as we may otherwise indicate, the terms of the senior indenture and the subordinated indenture are identical.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in an officers' certificate or by a supplement indenture. Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series. We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

the title;

Table of Contents

the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;

any limit on the amount that may be issued;

whether or not we will issue the series of debt securities in global form, and, if so, the terms and who the depository will be;

the maturity date;

whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a United States person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;

the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;

the terms of the subordination of any series of subordinated debt;

the place where payments will be payable;

restrictions on transfer, sale or other assignment, if any;

our right, if any, to defer payment of interest and the maximum length of any such deferral period;

the date, if any, after which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;

the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option, to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;

whether the indenture will restrict our ability or the ability of our subsidiaries to:

incur additional indebtedness;

issue additional securities;

create liens;

pay dividends or make distributions in respect of our capital stock or the capital stock of our subsidiaries;

redeem capital stock;

place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;

make investments or other restricted payments;

sell or otherwise dispose of assets;

enter into sale-leaseback transactions;

engage in transactions with stockholders or affiliates;

issue or sell stock of our subsidiaries; or

effect a consolidation or merger;

whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;

a discussion of certain material or special United States federal income tax considerations applicable to the debt securities;

Table of Contents

information describing any book-entry features;

provisions for a sinking fund purchase or other analogous fund, if any;

the applicability of the provisions in the indenture on discharge;

whether the debt securities are to be offered at a price such that they will be deemed to be offered at an original issue discount as defined in paragraph (a) of Section 1273 of the Internal Revenue Code of 1986, as amended;

the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;

the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock, our preferred stock or other securities (including securities of a third-party). We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock, our preferred stock or other securities (including securities of a third-party) that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indentures will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets.

Events of Default under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indentures with respect to any series of debt securities that we may issue:

if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended;

if we fail to pay the principal, premium or sinking fund payment, if any, when due and payable at maturity, upon redemption or repurchase or otherwise, and the time for payment has not been extended;

if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the trustee or we and the trustee receive notice from the holders of at least 51% in aggregate principal amount of the outstanding debt securities of the applicable series; and

if specified events of bankruptcy, insolvency or reorganization occur.

We will describe in each applicable prospectus supplement any additional events of default relating to the relevant series of debt securities.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 51% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given

Table of Contents

by such holders, may declare the unpaid principal, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the unpaid principal, premium, if any, and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

Subject to the terms of the indentures, the holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity or security satisfactory to it against any loss, liability or expense. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

the direction so given by the holder is not in conflict with any law or the applicable indenture; and

subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

The indentures provide that if an event of default has occurred and is continuing, the trustee will be required in the exercise of its powers to use the degree of care that a prudent person would use in the conduct of its own affairs. The trustee, however, may refuse to follow any direction that conflicts with law or the indenture, or that the trustee determines is unduly prejudicial to the rights of any other holder of the relevant series of debt securities, or that would involve the trustee in personal liability. Prior to taking any action under the indentures, the trustee will be entitled to indemnification against all costs, expenses and liabilities that would be incurred by taking or not taking such action.

Modification of Indenture; Waiver

Subject to the terms of the indenture for any series of debt securities that we may issue, we and the trustee may change an indenture without the consent of any holders with respect to the following specific matters:

to fix any ambiguity, defect or inconsistency in the indenture;

to comply with the provisions described above under Description of Debt Securities Consolidation, Merger or Sale ;

to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act;

to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;

to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided under Description of Debt Securities General, to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;

to evidence and provide for the acceptance of appointment hereunder by a successor trustee;

to provide for uncertificated debt securities and to make all appropriate changes for such purpose;

to add to our covenants such new covenants, restrictions, conditions or provisions for the benefit of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred to us in the indenture; or

to change anything that does not adversely affect the interests of any holder of debt securities of any series in any material respect.

Table of Contents

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, subject to the terms of the indenture for any series of debt securities that we may issue or otherwise provided in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may only make the following changes with the consent of each holder of any outstanding debt securities affected:

extending the stated maturity of the series of debt securities;

reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption or repurchase of any debt securities; or

reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that, subject to the terms of the indenture and any limitation otherwise provided in the prospectus supplement applicable to a particular series of debt securities, we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

register the transfer or exchange of debt securities of the series;

replace stolen, lost or mutilated debt securities of the series;

maintain paying agencies;

recover excess money held by the trustee;

compensate and indemnify the trustee; and

appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depository named by us and identified in a prospectus supplement with respect to that series.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Table of Contents

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or

register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture and is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur. However, upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase shares of common stock or shares of preferred stock. The warrants may be issued independently or together with any other securities and may be attached to or separate from the other securities. Each series of warrants may be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrants will be evidenced by warrant certificates. Unless otherwise specified in the prospectus supplement, the warrant certificates may be traded separately from the securities with which the warrant certificates were issued. Warrant certificates may be exchanged for new warrant certificates of different denominations at the office of an agent that we will appoint. Until a warrant is exercised, the holder of a warrant does not have any of the rights of a holder of our securities and is not entitled to any payments on any securities issuable upon exercise of the warrants.

Table of Contents

The prospectus supplement relating to a series of warrants will describe the specific terms of the warrants including the following:

the title of the warrants;

the aggregate number of the warrants;

the price or prices at which the warrants will be issued and the currency in which the price for the warrants may be paid;

the price at which and the currency in which the securities purchasable upon exercise of the warrants may be purchased and the various factors considered in determining that price;

the dates on which the right to exercise the warrants will commence and expire and whether the exercise of warrants will be at the option of holders, at our option, or automatic;

whether the warrants are exercisable by payment of cash, surrender of other securities, or both;

provisions for changes to or adjustments in the exercise price of the warrants;

if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

if applicable, the designation and terms of the series of preferred stock with which the warrants are issued;

if applicable, the designation and terms of the other securities with which the warrants are issued and the number of the warrants issued with each such other security;

if applicable, the date on and after which the warrants and other related securities will be separately transferable;

if applicable, any anti-dilution protection against future issuances;

whether the warrants will be issued in registered form or bearer form;

information with respect to book-entry procedures, if any;

if applicable, a discussion of material U.S. federal income tax considerations; and

any other terms of the warrants, including terms, procedures, and limitations relating to the exchange or exercise of the warrants.

LEGAL MATTERS

The legality of the securities offered by this prospectus has been passed upon for us by Morgan, Lewis & Bockius LLP, San Francisco, California.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2015, and the effectiveness of our internal control over financial reporting as of December 31, 2015, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement that we filed with the SEC. The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's Public Reference Room at 100 F. Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our public filings, including reports, proxy and information statements, are also available on the SEC's web site at <http://www.sec.gov>. We maintain a website at www.sangamo.com. The information contained on our website is not incorporated by reference in this prospectus and any accompanying prospectus supplement, and you should not consider it a part of this prospectus and any accompanying prospectus supplement.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference information from other documents that we file with them, which means that we can disclose important information by referring to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference into this prospectus the documents listed below, and any future filings (other than the portions thereof deemed to be furnished to the SEC pursuant to Item 2.02 or Item 7.01 of Current Report on Form 8-K) we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), until we have sold all of the securities to which this prospectus relates or the offering is otherwise terminated, including any such filing prior to the effectiveness of this registration statement:

our annual report on Form 10-K for the year ended December 31, 2015, filed with the SEC on February 18, 2016; and

the description of our common stock contained in our registration statement on Form 8-A filed under Section 12(g) of the Exchange Act with the SEC on March 31, 2000, including any amendment or reports filed for the purpose of updating such description.

To the extent that any statement in this prospectus is inconsistent with any statement that is incorporated by reference and that was made on or before the date of this prospectus, the statement in this prospectus shall supersede such incorporated statement. The incorporated statement shall not be deemed, except as modified or superseded, to constitute a part of this prospectus or the registration statement. Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete and, in each instance, we refer you to the copy of each contract or document filed as an exhibit to the registration statement.

We will furnish without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request, a copy of any or all of the information that has been incorporated into this prospectus by reference (except exhibits, unless they are specifically incorporated into this prospectus by reference) but not delivered with this prospectus. You should direct any requests for copies to:

Sangamo BioSciences, Inc.

501 Canal Boulevard

Richmond, CA 94804

(510) 970-6000

Table of Contents

Sangamo BioSciences, Inc.

Common Stock

Cowen and Company

December 7, 2016