

SANGAMO BIOSCIENCES INC  
Form 10-K  
February 17, 2011  
Table of Contents

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**Form 10-K**

þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended December 31, 2010

or

.. TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the transition period from to

Commission file number: 0-30171

**SANGAMO BIOSCIENCES, INC.**

*(Exact name of registrant as specified in its charter)*

**Delaware**  
*(State or other jurisdiction of*

*incorporation or organization)*

**501 Canal Boulevard, Suite A**

**Richmond, California**  
*(Address of principal executive offices)*

**68-0359556**  
*(I.R.S. Employer  
Identification No.)*

**94804**  
*(Zip Code)*

**(510) 970-6000**

*(Registrant's telephone number, including area code)*

**None**

*(Former name, former address and former fiscal year, if changed since last report)*

# Edgar Filing: SANGAMO BIOSCIENCES INC - Form 10-K

## Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, \$0.01 par value per share	Nasdaq Global Market

**Securities registered pursuant to Section 12(g) of the Act: None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes  No

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company

(Do not check if a smaller reporting company)

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

The aggregate market value of the voting stock held by non-affiliates of the registrant based upon the closing sale price of the common stock on June 30, 2010 (the last business day of the registrant's most recently completed second fiscal quarter), as reported on the Nasdaq Global Market was \$147,904,070. For purposes of this calculation, directors and executive officers of the registrant have been deemed affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at February 1, 2011
Common Stock, \$0.01 par value per share	45,421,347 shares

**DOCUMENTS INCORPORATED BY REFERENCE**

Document	Parts Into Which Incorporated
Proxy Statement for the 2011 Annual Meeting of Stockholders	Part III

**Table of Contents****TABLE OF CONTENTS**

	<b>Page</b>
<b>PART I</b>	
Item 1. <u>Business</u>	4
Item 1A. <u>Risk Factors</u>	28
Item 1B. <u>Unresolved Staff Comments</u>	43
Item 2. <u>Properties</u>	43
Item 3. <u>Legal Proceedings</u>	43
Item 4. <u>(Removed and Reserved)</u>	43
<b>PART II</b>	
Item 5. <u>Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	44
Item 6. <u>Selected Financial Data</u>	46
Item 7. <u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	46
Item 7A. <u>Quantitative and Qualitative Disclosures About Market Risk</u>	54
Item 8. <u>Financial Statements and Supplementary Data</u>	55
Item 9. <u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	79
Item 9A. <u>Controls and Procedures</u>	79
Item 9B. <u>Other Information</u>	80
<b>PART III</b>	
Item 10. <u>Directors, Executive Officers and Corporate Governance</u>	81
Item 11. <u>Executive Compensation</u>	81
Item 12. <u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	81
Item 13. <u>Certain Relationships and Related Transactions, and Director Independence</u>	81
Item 14. <u>Principal Accounting Fees and Services</u>	81
<b>PART IV</b>	
Item 15. <u>Exhibits and Financial Statement Schedules</u>	82

**Table of Contents**

**SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

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

our strategy;

product development and commercialization of our products;

clinical trials;

partnering;

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, may, plans, seeks, should and will. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these risks and uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the headings Risk Factors and Management's Discussion and Analysis of Financial Results of Operations in this Form 10-K. Sangamo undertakes no obligation to publicly release any revisions to forward-looking statements to reflect events or circumstances arising after the date of this report. Readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this Annual Report on Form 10-K.

ZFP Therapeutic<sup>®</sup> is a registered trademark of Sangamo BioSciences, Inc. This report also contains trademarks and trade names that are the property of their respective owners.

---

**Table of Contents**

**PART I**

**ITEM 1 BUSINESS**

**Overview**

We, and our licensed partners, are the leaders in the research, development and commercialization of zinc finger DNA-binding proteins (ZFPs), a naturally occurring class of proteins, and have used our knowledge and expertise to develop a proprietary technology platform. ZFPs can be engineered (see Fig. 1) to make ZFP transcription factors (ZFP TFs), proteins that can be used to turn genes on or off, and ZFP nucleases (ZFNs), proteins that enable us to modify DNA sequences in a variety of ways. As ZFPs act at the DNA level, they have broad potential applications in several areas including human therapeutics, plant agriculture, research reagents, as well as transgenic animal and cell-line engineering.

The main focus for our company is the development of novel human therapeutics and we are building a pipeline of ZFP Therapeutics®. Our lead ZFP Therapeutic, SB-509, a plasmid formulation of a ZFP TF activator of the vascular endothelial growth factor-A (VEGF-A) gene, is under evaluation in a Phase 2b clinical trial for moderately severe diabetic neuropathy (DN) and we expect to have data from this study in the fourth quarter of 2011.

We have an ongoing Phase 1/2 clinical trial and two Phase 1 trials to evaluate the first therapeutic application of our ZFN technology, SB-728-T, a ZFN-modified T-cell product for the treatment of HIV/AIDS. We expect to present preliminary data from the Phase 1 studies of this ZFP Therapeutic in the first quarter of 2011. In addition, our clinical collaborators at City of Hope (COH) have initiated a Phase 1 clinical trial to evaluate a ZFN-based therapeutic for the treatment of glioblastoma multiforme, a type of brain cancer.

We have preclinical development programs of ZFP Therapeutics in Parkinson's disease, hemophilia B, neuropathic pain, and neuroregenerative programs in spinal cord injury, traumatic brain injury and stroke. In addition, we have research stage programs in monogenic diseases, genetic conditions that result from a defect in a single gene, including hemophilia and other hemoglobinopathies, and certain immunodeficiencies.

We believe the potential commercial applications of ZFPs are broad-based and we have capitalized on our ZFP platform by facilitating the sale or licensing of ZFP TFs or ZFNs to companies working in fields outside human therapeutics:

We have a license agreement with the research reagent company Sigma-Aldrich Corporation (Sigma). Sigma has the exclusive right to develop and market high value laboratory research reagents based upon Sangamo's ZFP technology as well as ZFP-modified cell lines for commercial production of protein pharmaceuticals and ZFP-engineered transgenic animals. Sigma is marketing ZFN-derived gene editing tools under the trademark CompoZr™ and is selling transgenic animals through its SAGE™ Labs business unit.

We have a license agreement with Dow AgroSciences, LLC (DAS), a wholly owned subsidiary of Dow Chemical Corporation. Under the agreement, Sangamo is providing DAS with access to Sangamo's ZFP technology and the exclusive right to use it to modify the genomes or alter the nucleic acid or protein expression of plant cells, plants, or plant cell cultures. DAS plans to market ZFP-derived plant products under the trademark EXZACT™ Precision Technology. We have retained rights to use plants or plant-derived products to deliver ZFP TFs or ZFNs into human or animals for diagnostic, therapeutic, or prophylactic purposes.

We also have license agreements with life sciences companies including Genentech Inc. (Genentech), F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. (Roche) and Open Monoclonal Technology, Inc. (OMT). Pursuant to these license agreements, we granted non-exclusive rights to use our ZFP technology for protein pharmaceutical production and transgenic animals.

## **Table of Contents**

We have a substantial intellectual property position in the design, selection, composition, and use of engineered ZFPs to support all of these commercial activities. As of February 1, 2011, we either own outright or have exclusively licensed the commercial rights to approximately 283 patents issued in the United States and foreign national jurisdictions, and we have 359 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 will protect our ability to research, develop, and commercialize products and services based on ZFP technology across our chosen applications.

### **DNA, Genes, and Transcription Factors**

DNA is present in all cells except mature red blood cells, and encodes the inherited characteristics of all living organisms. A cell's DNA is organized in chromosomes as thousands of individual units called genes. Genes encode proteins, which are assembled through the process of transcription whereby DNA is transcribed into ribonucleic acid (RNA) and, subsequently, translation whereby RNA is translated into protein. DNA, RNA, and proteins comprise many of the targets for pharmaceutical drug discovery and therapeutic intervention.

The human body is composed of specialized cells that perform different functions and are thus organized into tissues and organs. All somatic cells in an individual's body contain the same set of genes. However, only a fraction of these genes are turned on, or expressed, in an individual human cell at any given time. Genes are regulated (i.e. turned on or turned off) in response to a wide variety of stimuli and developmental signals. Distinct sets of genes are expressed in different cell types. It is this pattern of gene expression that determines the structure, biological function, and health of all cells, tissues, and organisms. The aberrant expression of certain genes can lead to disease.

Transcription factors are proteins that bind to DNA and regulate gene expression. A transcription factor recognizes and binds to a specific DNA sequence within or near a particular gene and causes expression of that gene to be turned on (activated) or turned off (repressed). In higher organisms, transcription factors typically comprise two principal domains: the first is a DNA-binding domain, (designated in Figure 1 as the recognition domain) which recognizes a target DNA sequence and thereby directs the transcription factor to the proper chromosomal location; the second is a functional domain that causes the target gene to be activated or repressed (see Figure 1).

### **Figure 1**

#### **Schematic of the Two-Domain Structure of a ZFP Therapeutic**

---

## **Table of Contents**

### **Engineered Zinc Finger Protein Transcription Factors (ZFP TFs) for Gene Regulation and Engineered ZFP Nucleases (ZFNs) for Gene Modification**

Zinc finger DNA-binding proteins or ZFPs are the largest class of naturally occurring transcription factors in organisms from yeast to humans. Consistent with the two-domain structure of natural ZFP transcription factors, we take a modular approach to the design of the proteins that we engineer. The ZFP portion, the DNA-recognition domain, is typically composed of three or more zinc fingers. Each individual finger recognizes and binds to a three-four base pair sequence of DNA and multiple fingers can be linked together to recognize longer stretches of DNA, thereby improving specificity. By modifying the amino acids of a ZFP that directly interact with DNA, we can engineer novel ZFPs capable of recognizing pre-selected DNA sequences within, or near, virtually any gene.

We use the engineered ZFP DNA-binding domain linked to a functional domain. The ZFP DNA-binding domain brings the functional domain into the proximity of the gene of interest. Thus, Sangamo's scientists can create a ZFP TF which is capable of controlling or regulating the expression of a target gene in the desired manner. For instance, attaching an activation domain to a ZFP will cause a target gene to be turned on. Alternatively, a repression domain causes the gene to be turned off. Our lead ZFP Therapeutic SB-509 is designed to turn a gene on. SB-509 is a ZFP TF activator of the vascular endothelial growth factor-A (VEGF-A) gene. VEGF-A has been shown to have angiogenic properties, i.e. to promote the growth of blood vessels, and to have a protective and regenerative effect on nerve tissue. We are currently testing this ZFP TF in a Phase 2b clinical trial in subjects with DN, and have preclinical programs of SB-509 for treatment of stroke, spinal cord injury and traumatic brain injury. We are also developing ZFP TFs that turn gene expression off. We have programs in neuropathic pain focused on the repression of pain receptors, Trk-A and PN3, and these ZFP TFs are in preclinical testing.

Our engineered ZFPs can also be attached to the cleavage domain of a restriction endonuclease, an enzyme that cuts DNA, creating a zinc finger nuclease or ZFN. The ZFN is able to recognize its intended gene target through its engineered ZFP DNA-binding domain. When a pair of ZFNs is bound to the DNA in the correct orientation and spacing, the DNA sequence is cut between the ZFP binding sites. DNA binding by both ZFNs is necessary for cleavage. This break in the DNA triggers a natural process of DNA repair in the cell. The repair process can be harnessed to achieve one of several outcomes that may be therapeutically useful. If cells are simply treated with ZFNs alone the repair process frequently results in joining together of the two ends of the broken DNA and the consequent loss of a small amount of genetic material that results in disruption of the original DNA sequence. This can result in the generation of a shortened or non-functional protein, i.e. gene disruption. We believe that ZFN-mediated gene modification may be used to disrupt a gene that is involved in disease pathology such as disruption of the CCR5 gene to treat HIV infection. In contrast, if cells are treated with ZFNs in the presence of an additional donor DNA sequence that encodes the correct gene sequence, the cell can use the donor as a template to correct the cell's gene as it repairs the break resulting in ZFN-mediated gene correction. ZFN-mediated gene correction enables a corrected gene to be expressed in its natural chromosomal context and may provide a novel approach for the precise repair of DNA sequence mutations responsible for monogenic diseases such as hemophilia, sickle cell anemia or X-linked severe combined immunodeficiency (X-linked SCID). In addition, by making the donor sequence a gene-sized segment of DNA, a new copy of a gene can also be added into the genome at a specific location. The ability to place a gene-sized segment of DNA specifically into a pre-determined location in the genome eliminates the insertional mutagenesis concerns associated with traditional gene replacement approaches and broadens the range of mutations of a gene that can be corrected in a single step.

To date, we have designed, engineered, and assembled several thousand ZFPs and have tested many of these proteins for their affinity, or tightness of binding to their DNA target as well as their specificity, or preference for their intended DNA target. We have developed methods for the design, selection, and assembly of ZFPs capable of binding to a wide spectrum of DNA sequences and genes. We have linked ZFPs to numerous functional domains to create gene-specific ZFP TFs and have demonstrated the ability of these ZFP TFs to regulate

## **Table of Contents**

hundreds of genes in dozens of different cell types and in whole organisms, including mice, rats, rabbits, pigs, fruit flies, worms, zebrafish and yeast, and in plant species including canola and maize. Sangamo scientists and collaborators have published data in peer-reviewed scientific journals on the transcriptional function of ZFP TFs, successful gene modification using ZFNs and the resulting changes in the behavior of the target cell, tissue, or organism. Sigma is currently using ZFNs to generate transgenic animals and cell lines that have specific genetic modifications that make them useful models of human disease. These high value biologic tools are being used by academics, and biotechnology and pharmaceutical companies for medical research and drug development. We are currently evaluating the efficacy of both ZFP TFs and ZFNs in human clinical trials.

### **ZFP Therapeutics Provide the Opportunity to Develop a New Class of Human Therapeutics**

With our ability to generate and deliver gene-specific ZFP TFs for the activation or repression of genes and ZFNs for the correction, disruption or addition of target genes and DNA sequences, we are focused on developing a new class of highly differentiated human therapeutics. We believe that as more genes are validated as high-value therapeutic targets, the clinical breadth and scope of our ZFP Therapeutic applications may be substantial.

We believe that ZFP Therapeutics provide a unique and proprietary approach to drug design and may have differential competitive advantages over small-molecule drugs, protein pharmaceuticals and RNA-based approaches enabling the development of therapies for a broad range of unmet medical needs.

For example, ZFP Therapeutics can:

**Potentially be used to treat a broad range of diseases.** ZFP Therapeutics act at the DNA level to regulate gene expression or modify genes. We believe that we can generate ZFPs to recognize virtually any gene target allowing direct modulation of the gene and enabling a potentially broad applicability.

**Target non-druggable targets.** ZFP TFs and ZFNs act through a mechanism that is unique among biological drugs: direct regulation or modification of the disease-related or therapeutic gene as opposed to the RNA or protein target encoded by that gene. Following the genomics revolution of the 1990s, the sequencing and publication of the human genome, and the industrialization of genomics-based drug discovery, pharmaceutical and biotechnology companies have validated and characterized many new drug targets. Many of these targets have a clear role in disease processes but cannot be bound or modulated for therapeutic purposes by small molecules. Alternative therapeutic approaches may be required to modulate the biological activity of these so-called non-druggable targets. This may create a significant clinical and commercial opportunity for the therapeutic regulation or modification of disease-associated genes using engineered ZFP TFs or ZFNs. Thus, a target which may be intractable to treatment using a small molecule or monoclonal antibody can be turned on, turned off or modified at the DNA level using ZFP technology.

**Provide novel activities such as activation of gene expression and gene modification to address drug targets.** Engineered ZFP TFs enable not just the repression of a therapeutically relevant gene but its activation, and ZFNs enable the disruption, correction or targeted addition of a gene sequence. This gives the technology a degree of flexibility not seen in other drug platforms. Activation of gene expression and direct modification of genes are not functions that can be achieved using antisense RNA, or siRNA, which act by interfering with the expression of cellular RNA, or conventional small molecules, antibodies, or other protein pharmaceuticals that primarily act to block or antagonize the action of a protein.

**Provide high specificity and selectivity for targets.** ZFP Therapeutics can be designed to act with high specificity and we have published such data (*Proc. Natl. Acad. Sci* (2003) vol:100, p11997-12002; *J Neurosci*. 2010 Dec 8;30(49):16469-74.; and *Nat Biotechnol*. 2008 Jul;26(7):808-16. Epub 2008 Jun 29.). In addition, there are generally only two targets per cell for a ZFP Therapeutic which means that ZFP TFs and ZFNs need to be available in the cell in very low concentrations. In contrast, drugs



**Table of Contents**

that act on protein and RNA targets that are naturally present in higher cellular concentrations need to be administered in higher concentrations. Many small molecule and RNA-based approaches either affect multiple targets demonstrating so-called off-target effects or are toxic in the concentrations required to be therapeutically effective.

**Be used transiently to obtain a permanent therapeutic effect.** Permanent gene disruption, correction or addition requires only brief cellular expression of ZFNs.

**THERAPEUTIC PRODUCT DEVELOPMENT****ZFP Therapeutic Product Development Programs****Product**

<b>Candidate</b>	<b>Targeted Indication</b>	<b>Stage of Development</b>	<b>Protocol</b>	<b>Milestones</b>
SB-509	Diabetic Neuropathy	Phase 2b	SB-509-901	Trial initiated January 2010, enrollment of 170 subjects completed in December 2010 and data expected in 4Q 2011
SB-728-T	HIV/AIDS	Phase 1/2	SB-728-T-1002	Trial initiated in October 2010
		Phase 1	SB-728-T-902	Enrollment completed. Expect data in 1Q 2011
		Phase 1	SB-728-T*	Trial ongoing at University of Pennsylvania and preliminary data expected in 1Q 2011
SB-313xTZ	Glioblastoma	Phase 1	GRm13Z40-2*	Trial ongoing at City of Hope

Table 1: Summary of ongoing clinical trials evaluating Sangamo's ZFP Therapeutics.

\* Investigator sponsored trial

**SB-509 for Diabetic Neuropathy (DN)**

*Market Opportunity*

Diabetic peripheral sensory and motor neuropathy is one of the most frequent complications of diabetes. The Centers for Disease Control (CDC) estimates that approximately 60-70% of those with diabetes have some form of neuropathy and the longer a person has diabetes the greater their risk of developing this condition. DN is primarily a result of having high blood glucose over several years which results in damage to the blood vessels that bring oxygen to nerves as well as damage to the nerves themselves. As a result, the damaged nerves do not function properly. Symptoms include numbness, tingling sensations and pain particularly in the toes or feet which may evolve into loss of sensation and motor function as nerve damage progresses. Ulcers and sores may appear on numb areas of the foot or leg because pressure or injury goes unnoticed. Despite adequate treatment, these areas of trauma frequently become infected and this infection may spread to the bone, necessitating amputation of the leg or foot. The rate of amputation for people with diabetes is ten times higher than that for non-diabetics and more than 60% of non-traumatic lower-limb amputations in the United States occur among people with diabetes. In 2004, this translated to approximately 71,000 non-traumatic lower limb amputations. Diabetes is a growing problem. The CDC estimates that from 1980 through 2007 (the most recent year for which data is available), the number of Americans with diabetes increased from 5.6 million to 23.6 million (7.8% of the population). Each year 1.6 million new cases of diabetes are diagnosed in people aged 20 years and older.

## **Table of Contents**

### *Current Treatments and Unmet Medical Need*

There is no therapeutic approach for DN that addresses nerve damage and vascular insufficiency. The only therapies approved by the FDA for the treatment of DN are analgesics and antidepressants such as Lyrica® (pregabalin) and Cymbalta® (duloxetine hydrochloride) that address the symptoms of pain but do not retard or reverse the progression of the disease.

### *Sangamo's Therapeutic Approach*

Sangamo is developing SB-509, a disease-modifying therapeutic approach, to address the underlying nerve damage characteristic of DN. SB-509 is an injectable formulation of plasmid DNA that encodes a ZFP TF designed to up-regulate the patient's own gene encoding vascular endothelial growth factor A (VEGF-A). VEGF-A has been demonstrated to have both angiogenic and direct neuroproliferative, neuroregenerative and neuroprotective properties. The VEGF-A gene encodes multiple forms (isoforms) of the VEGF-A protein which exhibit slightly different properties and bind to different VEGF-A receptors. It is believed that all of these isoforms are required to be present in specific ratios to achieve a full biological effect. SB-509 activates the expression of all isoforms of VEGF-A in their natural ratios and we believe that this differentiates Sangamo's approach. Human clinical studies have demonstrated that VEGF expression is reduced in diabetic patients with neuropathy and that the more severe the symptoms, the greater the reduction in VEGF-A expression (*Diabetes Care (2008) Vol: 31 p140-145*). We have completed preclinical studies of VEGF-A activation using our ZFP Therapeutic, SB-509, in animal models of DN and demonstrated that single and repeat intramuscular injections of SB-509 in rats with diabetes resulted in protection of nerve function in the treated limb as measured by sensory and motor nerve conduction velocities (*Diabetes (2006) Vol:55 p1847-1854*).

We are currently evaluating SB-509 in an ongoing double-blind, placebo-controlled Phase 2b clinical trial (SB-509-901) in subjects with moderately severe DN. Subject inclusion criteria for the trial are based upon accumulated data from Sangamo's earlier Phase 1 and Phase 2 clinical trials in subjects with DN. The trial is designed to finalize dose, schedule and primary and secondary endpoints for Phase 3 trials. We have completed enrollment of subjects into the trial and expect to have data by the fourth quarter of 2011.

In January 2005, we filed an IND application with the FDA for SB-509 for the treatment of mild to moderate diabetic neuropathy. Since then we have completed a Phase 1 clinical trial and three Phase 2 clinical trials in subjects with DN symptoms that ranged from mild to severe, as determined using several standard measurements of nerve function, including quantitative sensory testing (QST), neuropathy impairment score of the lower limb (NIS-LL), which quantifies the results of a neurological examination, and nerve conduction velocity (NCV) measurements.

Data from our Phase 1 clinical trial demonstrated a statistically significant improvement in QST and NIS-LL as well as clinically relevant trends toward improvement in motor and sensory NCV measurements in subjects with mild to moderate diabetic neuropathy over a six month period after a single administration of SB-509. Top line data from our double-blind, placebo-controlled, repeat-dosing multi-center Phase 2 clinical trial of SB-509 (SB-509-601) in subjects with mild to moderate DN did not demonstrate significant differences between the SB-509 and placebo treated subjects in a number of measures of nerve function and health at the primary analysis point, day 180 post-treatment. However, data from the study in which intraepidermal nerve fiber density (IENFD) was measured in skin biopsies from subjects in the SB-509-601 trial demonstrated a direct neuroregenerative effect of SB-509 treatment that resulted in a statistically significant (p value=0.02) percentage increase in small unmyelinated nerve fibers. Further analysis of data from the SB-509-601 trial demonstrated a greater nerve regrowth response to SB-509 treatment in subjects with more severe neuropathy, as judged by their baseline IENFD, compared to regrowth responses in placebo-treated subjects. In addition, subgroup analyses using baseline severity of disease as a selection criterion demonstrated that SB-509 treatment resulted in correlative clinically relevant improvements in NIS-LL and sural NCV (sNCV) in subjects with moderate to severe disease. A repeat-dosing placebo-controlled Phase 2 clinical study (SB-509-701) to evaluate SB-509 in subjects with severe DN demonstrated preferential recovery of sNCV in SB-509-treated subjects compared with

## **Table of Contents**

the placebo-treated group during 180 days post treatment in subjects who entered the trial with blocked sural nerves. All clinical studies with this drug thus far have demonstrated that treatment with SB-509 is well-tolerated and we have not observed any drug-related severe adverse events (SAEs). We have also evaluated SB-509 in a Phase 2 clinical trial in subjects with Amyotrophic Lateral Sclerosis (ALS) as well as preclinical animal studies in spinal cord injury, traumatic brain injury and stroke.

The Juvenile Diabetes Research Foundation International (JDRF) has provided funding to support aspects of two of our human clinical studies of SB-509. We first entered into an agreement with JDRF in October 2006 to provide up to \$3.0 million in funding to support our SB-509-601 trial and received the full amount of the funding at the conclusion of the trial. In January 2010, JDRF committed to provide further funding of up to \$3.0 million to support our ongoing Phase 2b trial based upon achievement of certain milestones pertaining to the study.

### ***Amyotrophic Lateral Sclerosis (ALS)***

#### *Market Opportunity*

ALS, commonly referred to as Lou Gehrig's disease, is a progressive neurodegenerative disease that affects nerve cells in the brain and the spinal cord and is generally fatal. The cause is not clearly understood and there is no cure. The progressive degeneration of motor neurons in ALS is the primary reason that the disease is fatal. When the motor neurons die, the ability of the brain to initiate and control muscle movement is lost. Muscle weakness is a hallmark initial sign in ALS, occurring in approximately 60% of patients. The hands and feet may be affected first, causing difficulty in lifting, walking or using the hands. As the weakening and paralysis continue to spread to the muscles of the trunk, the disease eventually affects speech, swallowing, chewing and breathing. When the breathing muscles become affected, ultimately, patients need permanent ventilatory support in order to survive. More than 5,000 Americans are diagnosed with ALS each year. Approximately 30,000 people at any given time are living with ALS in the United States.

#### *Current Treatments and Unmet Medical Need*

The FDA has approved a single medication, Rilutek® (Riluzole) which modestly increases lifespan in ALS patients but does not appear to improve their quality of life.

#### *Sangamo's Therapeutic Approach*

While not envisioned as a cure for ALS, our therapeutic approach is designed to be disease-modifying, to protect and restore the function of damaged nerves in order to preserve muscle strength and potentially improve quality of life for ALS patients. There are both animal and human clinical data suggesting that a defect or deficiency in VEGF expression plays a role in ALS.

In September 2008 we initiated a Phase 2 clinical trial (SB-509-801) to evaluate the therapeutic effect of regional muscle delivery of SB-509 in subjects with ALS. The study, which was designed to evaluate safety and efficacy, was completed and the data reported at the Society for Neuroscience meeting in November 2010. Data from SB-509-801 demonstrated that the drug was well-tolerated in subjects with ALS and that SB-509 treated subjects exhibited a modest delay in deterioration of muscle strength as measured by manual muscle testing (MMT) compared to baseline-matched historic controls. These data have provided information for the design of future studies, although none are currently in progress.

### ***Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS)***

#### *Market Opportunity*

HIV infection results in the death of immune system cells, particularly CD4<sup>+</sup> T-cells, and thus leads to AIDS, a condition in which the body's immune system is depleted to such a degree that the patient is unable to

---

## **Table of Contents**

fight off common infections. Ultimately, these patients succumb to opportunistic infections or cancers. According to UNAIDS/WHO, over 2.7 million people were newly infected with HIV in 2007. An estimated 2.0 million people died of AIDS in the same year. There are now over 33 million people living with HIV and AIDS worldwide. The CDC estimates that, in the United States alone, there were 1.2 million people living with HIV/AIDS, approximately 54,000 new infections and 23,000 deaths in 2007.

### *Current Treatments and Unmet Medical Need*

Currently, there are approximately 30 antiretroviral drugs approved by the FDA to treat people infected with HIV. These drugs fall into four major classes: reverse transcriptase inhibitors, protease inhibitors, integrase inhibitors and entry and fusion inhibitors. This latter class also includes a small molecule antagonist of the CCR5 receptor, Selzentry® (maraviroc). This drug is being used in combination with other antiretroviral agents for treatment-experienced adult patients infected with CCR5-tropic HIV-1 strains that are resistant to multiple antiretroviral agents. There are no study results demonstrating the effect of Selzentry on clinical progression of HIV-1 and the drug carries a black box warning of liver toxicity.

As HIV reproduces itself, variants of the virus emerge, including some that are resistant to antiretroviral drugs. Therefore, doctors recommend that people infected with HIV take a combination of antiretroviral drugs known as highly active antiretroviral therapy, or HAART. This strategy typically combines drugs from at least two different classes of antiretroviral drugs. Currently available drugs do not cure HIV infection or AIDS. They can suppress the virus, even to undetectable levels, but they cannot eliminate HIV from the body. Hence, people with HIV need to take antiretroviral drugs continuously which can have significant side effects over time. There is no therapeutic approach available which protects CD4+ T-cells, reduces viral load and does not require daily dosing.

### *Sangamo's Therapeutic Approach*

Our therapeutic approach aims to use our ZFN-mediated gene editing technology to replicate a naturally occurring human mutation which renders individuals largely resistant to infection with the most common strain of HIV. CCR5 is a co-receptor for HIV entry into T-cells and, if CCR5 is not expressed on their surface, HIV infects them with lower efficiency. A population of individuals that is immune to HIV infection, despite multiple exposures to the virus, has been identified and extensively studied. The majority of these individuals have a natural mutation, CCR5delta32, resulting in the expression of a shortened, or truncated, and non-functional CCR5 protein. This mutation appears to have no observable deleterious effect. In addition, a study published in *Blood* in December 2010 reported an effective cure when an AIDS patient with leukemia received a bone marrow transplant from a matched donor with this CCR5 delta-32 mutation. This approach transferred the hematopoietic stem cells (HSCs) residing in the bone marrow from the delta-32 donor, and provided a self-renewable and potentially lifelong source of HIV-resistant immune cells. After transplantation, the patient was able to discontinue all anti-HIV drug treatments, CD4 counts increased, and viral load dropped to an undetectable level, demonstrating effective transplantation of protection from HIV infection.

We are using our ZFN-mediated gene disruption technology to disrupt the CCR5 gene in cells of a patient's immune system to make these cells permanently resistant to HIV infection. The aim is to provide a population of HIV-resistant cells that can fight HIV and opportunistic infections mimicking the situation in individuals that carry the natural mutation. In December 2008, in collaboration with scientists at the University of Pennsylvania, an IND application was filed for a Phase 1 trial of our CCR5 ZFP Therapeutic, SB-728-T. This single-dose investigator-sponsored trial began enrolling subjects in February 2009, at the University of Pennsylvania. In September 2009, we filed an IND application and initiated a dose-escalation Phase 1 clinical trial (SB-728-T-902) of SB-728-T. Both Phase 1 studies are in HIV-infected individuals who are on highly active antiretroviral therapy (HAART). The studies are designed primarily to evaluate the safety and tolerability of this ZFP Therapeutic approach; however, subjects' CD4 T-cell counts, levels of CCR5-modified T-cells and viral burden will also be monitored. We expect to present preliminary data from both trials in the first quarter of 2011.

## **Table of Contents**

In October 2010, we also initiated a new Phase 1/2 study (SB-728-T-1002) to evaluate SB-728-T in HIV-infected individuals who are not yet on HAART. We also expanded our SB-728-T-901 study to include an additional cohort of subjects that are failing HAART. With the expansion of this clinical program we are evaluating SB-728-T in a broad spectrum of HIV infection from individuals who are recently infected and not on HAART through those who are failing HAART.

We also have a preclinical stage program to investigate this approach in hematopoietic stem cells and, with our collaborators at City of Hope and the University of Southern California, have funding for this program from a \$14.5 million Disease Team Research Award granted by the California Institute for Regenerative Medicine (CIRM). In addition, we have a research stage program to develop our ZFN approach as an *in-vivo* application for which we have received a Grand Challenges Explorations grant of \$100,000 from the Bill and Melinda Gates Foundation.

### ***Glioblastoma Multiforme (GBM)***

#### *Market Opportunity*

Gliomas are the most common type of primary brain cancers; 20,000 cases are diagnosed and 14,000 glioma-related deaths occur annually in the United States. Glioblastoma multiforme (GBM), the most common type of glioma, is rapidly progressive and nearly universally lethal.

#### *Current Treatments and Unmet Medical Need*

Malignant glioma is managed through surgery, chemoradiotherapy, which often exacerbates the already severe symptoms caused by the location of the tumor, anti-angiogenic therapy and symptomatic care with glucocorticoids. With modern surgical and radiotherapeutic techniques, the mean duration of survival has increased to 82 weeks, although 5-year survival rates have only increased from 3-6%. Resection of 90% of bulky tumors is usually attempted provided that vital functional anatomy is spared. Chemotherapy, resection and radiation provide only marginal survival advantage to patients. Approximately 80% of recurrent tumors arise from remnants of the original incompletely resected tumor. The median survival of recurrent glioblastoma multiforme patients treated with a second resection is 36 weeks. Due to their ability to infiltrate tissues and destroy cancer cells, T-cell-based immunotherapies are a promising approach to the effective treatment of cancer. However, T-cell-based immunotherapy is ineffective in the presence of glucocorticoids, which are used routinely to limit brain swelling.

#### *Sangamo's Therapeutic Approach*

In collaboration with clinicians at City of Hope (COH) we are developing a ZFP Therapeutic that uses our ZFN technology to disrupt the expression of the gene encoding the glucocorticoid receptor in T-cells. Our collaborators have developed an engineered protein known as an IL-13 zetakine that, when expressed in cytotoxic or killer T-cells, enables them to seek out and destroy glioblastoma cells in the brain. In an investigator-sponsored IND, patients have been treated with zetakine-modified T-cells which have shown significant anti-tumor activity. In this clinical protocol, T-cells are modified to express the zetakine. These modified cells are infused into the brain following surgery for the targeted elimination of residual tumor cells. Frequently, however, a glucocorticoid such as Decadron® must be administered to patients post-surgery to control brain swelling. Glucocorticoids inactivate or kill the therapeutic T-cells through a protein known as the glucocorticoid receptor (GR). Cells without a functional GR are drug-resistant and are therefore available to destroy tumor cells. Our goal is to generate zetakine positive, GR-negative T-cells, thus enabling the full treatment effect to occur even in the presence of Decadron. In December 2006, we entered into a broad, exclusive license agreement with COH for use of the zetakine with our technology. Sangamo retains commercialization rights and COH receives success-based milestone and downstream payments. In 2009, our collaborators at COH filed an investigator-sponsored IND application for a Phase 1 clinical trial of this therapeutic and have initiated a Phase 1 trial in subjects with recurrent/refractory GM.

## **Table of Contents**

### **ZFP Therapeutic Pre-clinical Stage Programs**

In addition to our ongoing Phase 2b clinical trial in DN, and Phase 1 studies in HIV/AIDS and glioblastoma, we currently have multiple preclinical-stage programs (i.e., lead ZFP TF and ZFN molecules in animal efficacy studies).

#### ***Parkinson's Disease (PD)***

Parkinson's disease is a chronic, progressive disorder of the central nervous system and results from the loss of cells in a section of the brain called the substantia nigra. These cells produce dopamine, a chemical messenger responsible for transmitting signals within the brain. Loss of dopamine causes critical nerve cells, or neurons, in the brain, to fire out of control, leaving patients unable to direct or control their movement in a normal manner. The symptoms of Parkinson's may include tremors, difficulty maintaining balance and gait, rigidity or stiffness of the limbs and trunk and general slowness of movement (also called bradykinesia). Patients may also eventually have difficulty walking, talking, or completing other simple tasks. Symptoms often appear gradually yet with increasing severity and the progression of the disease may vary widely from patient to patient. There is no cure for Parkinson's disease. Drugs have been developed that can help patients manage many of the symptoms; however, they do not prevent disease progression. According to the Parkinson's Disease Foundation, approximately 60,000 Americans are diagnosed with PD each year and approximately 1 million people in the US live with the disease. Glial cell line-derived neurotrophic factor (GDNF) is a potent neurotrophic factor that has shown promise in preclinical testing to slow or stop the progression of PD. In January 2007, we were awarded a two-year grant of \$950,000 by The Michael J. Fox Foundation for Parkinson's Research (MJFF) to support the development of a ZFP TF activator of GDNF to treat PD. We carried out preclinical studies in a rat model of the disease in collaboration with scientists at the University of California, San Francisco (UCSF) and these data have been published. In July 2010, we were awarded a second round of funding by MJFF to support further studies of ZFP TF activators of GDNF in non-human primates. The \$900,000 award will be paid over a period of two years.

#### ***Hemophilia B***

Hemophilia, a rare bleeding disorder in which the blood doesn't clot normally, is an example of a monogenic disease (a disease that is caused by a genetic defect in a single gene). There are several types of hemophilia, including hemophilia A (caused by a defect in clotting factor VIII) and B (caused by a defect in clotting factor IX). Clotting factors help the blood clot and stop bleeding when blood vessels are injured. Hemophilia usually occurs only in males. About 18,000 people in the United States have hemophilia, and each year about 400 babies are born with the disorder. Approximately 12-15% of those have hemophilia B. The standard treatment for individuals with hemophilia B is infusion of factor IX concentrates or recombinant factor IX to replace the defective clotting factor. People with severe forms of the disease may need ongoing preventive infusions. Individuals with hemophilia B are at increased risk of developing hepatitis and other viral infections due to repeated exposure to blood products.

Using our ZFN-gene editing technology, we have demonstrated functional correction of the human factor IX gene by direct delivery of ZFNs in a mouse model of the disease. Further preclinical studies are ongoing to develop a single treatment therapy for hemophilia B which will provide a permanent correction and reduce or eliminate the need for infusions of clotting factor products.

#### ***Neuropathic Pain (Cancer Pain)***

Neuropathic pain comprises a set of chronic pain disorders that cannot be attributed to a physical trauma, as is the case with acute pain. There are several million patients with neuropathic pain in the United States, including late-stage cancer patients. Studies have shown that 90% of patients with advanced cancer experience severe pain, and that pain occurs in 30% of all cancer patients regardless of the stage of the disease. Pain usually increases in intensity as cancer progresses. The most common cancer pain is from tumors that metastasize to the bone. Approximately 60-80% of cancer patients with bone metastases experience severe pain. The second most

---

## **Table of Contents**

common cancer pain is caused by tumors infiltrating nerves. Tumors near neural structures may cause the most severe pain. The few drugs currently being used to treat pain in these patients show marginal efficacy and can have very significant side effects. Chronic pain is a major and underserved market opportunity and is now an area of intense focus by pharmaceutical researchers owing to the discovery of several new pain-related pathways and drug targets. Recent studies have shown that in chronic pain certain proteins in nerve cell membranes are up-regulated or over-expressed. Our scientists have identified ZFP TF candidates that repress the expression of two of these pain targets, Trk-A and PN3, in cell-based models. Trk-A and PN3 fall into the class of non-druggable targets (i.e targets for which a small molecule or antibody approach is not feasible). We have incorporated these ZFP TFs into gene transfer vectors and have demonstrated a statistically significant reduction of pain in an animal model of bone cancer pain after treatment with Sangamo's ZFP TF repressor of Trk-A. Further animal studies are ongoing.

### ***Nerve Regeneration Spinal Cord Injury (SCI), Traumatic Brain Injury (TBI) and Stroke***

Nerves are fragile and can be damaged by disease, pressure, stretching, or cutting. While recent advances in emergency care and rehabilitation allow many patients suffering from a nerve injury or neurodegenerative disease to survive for longer periods and live with their condition, there are currently no therapeutic options for restoring nerve function. The spectrum of direct nerve injuries ranges from pinched nerves, e.g. sciatica, to outright spinal cord severance. Spinal Cord Injury (SCI) encompasses damage to the spinal cord that results in a loss of function such as mobility or feeling. The National Spinal Cord Injury Statistical Center (NSCISC) estimates that there are approximately 12,000 new cases of SCI each year, primarily in young adults. The spinal cord does not have to be severed in order for a loss of function to occur. In fact, in most people with SCI the spinal cord is intact, but the damage to it results in loss of function.

A stroke occurs when a blood clot blocks an artery, or a blood vessel breaks, interrupting blood flow to an area of the brain. When either of these events occurs, brain cells begin to die, frequently resulting in brain damage which can result in impairment of speech, movement and memory. According to the CDC, and based upon information from the Greater Cincinnati/Northern Kentucky Stroke Study and the National Institute of Neurological Diseases and Stroke, strokes killed approximately 136,000 people in 2007 and are the third largest cause of death in the United States. About 795,000 people suffer a new or recurrent stroke each year. About 610,000 of these are first attacks and 185,000 are recurrent attacks. As a consequence, strokes are a leading cause of serious, long-term disability in the US. About 6.4 million stroke survivors are alive today.

Evidence from preclinical and clinical studies using VEGF-A suggests that the targeted up-regulation of VEGF-A may be a viable approach to the treatment of degenerative nerve disease, crush injuries, SCI and traumatic brain injury and stroke. In collaboration with several academic labs, we are evaluating our ZFP TF activator of the VEGF-A gene in pre-clinical animal efficacy models of SCI, TBI and stroke. We have presented data that demonstrate a statistically significant effect on both recovery of hind-limb function and spinal cord tissue preservation following treatment at the time of injury with our ZFP TF activator of VEGF-A in a severe model of SCI. Further preclinical studies are ongoing to evaluate SB-509 in ischemia models of TBI and stroke and in SCI models to investigate dosing regimens.

### ***ZFP Therapeutic Research Programs***

We also have several research stage ZFN-mediated gene modification programs in progress. These initiatives include programs in monogenic diseases, including hemoglobinopathies such as sickle cell anemia, and immune system disorders such as X-linked severe combined immunodeficiency (X-linked SCID).

## **CORPORATE RELATIONSHIPS**

We are applying our ZFP technology platform to several commercial applications in which our products provide us and our strategic partners and collaborators with potential technical, competitive and economic advantages. Where and when appropriate, we have established and will continue to pursue ZFP Therapeutic

---

**Table of Contents**

strategic partnerships and corporate partnerships in non-therapeutic areas with selected pharmaceutical, biotechnology and chemical companies to fund internal research and development activities and to assist in product development and commercialization.

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

In July 2007, we entered into a license agreement with Sigma-Aldrich Corporation (Sigma). Under the license agreement, we are providing Sigma with access to our proprietary ZFP technology and the exclusive right to use the technology to develop and commercialize research reagents products and services in the research field, excluding certain agricultural research uses that Sangamo previously licensed to Dow AgroSciences LLC. Under the agreement, Sangamo and Sigma agreed to conduct research programs to develop laboratory research reagents using our ZFP technology, during which time we agreed to assist Sigma in connection in its efforts to market and sell services employing our technology in the research field. We have transferred the ZFP manufacturing technology to Sigma.

Under the terms of the agreement, Sigma made an initial payment comprising an upfront license fee and the purchase of 1.0 million shares of Sangamo's common stock under a separate stock purchase agreement, resulting in a total upfront payment to Sangamo of \$13.5 million, which consisted of an equity investment by Sigma in Sangamo common stock valued at \$8.55 million, a \$3.95 million license fee, and \$1.0 million of research funding. Under the license agreement, we received research funding and development milestone payments and may receive commercial milestone payments based on net sales of up to \$17.0 million, subject to the continuation of the agreement. During the term of the license agreement, Sigma is obligated to pay to Sangamo minimum annual payments, a share of certain revenues received by Sigma from sublicensees, and royalty payments on the sale of licensed products and services. Sigma also has the right to sublicense the ZFP technology for research applications, and we are eligible to receive 25% of any sublicensing revenues. We retain the sole right to use and license our ZFP technology for GMP production purposes, for the production of materials used in or administered to humans, and for any other industrial commercial use.

In October 2009, Sangamo expanded its license agreement with Sigma. In addition to the original terms of the license agreement, Sangamo provided Sigma with the exclusive rights to develop and distribute ZFP-modified cell lines for commercial production of protein pharmaceuticals and certain ZFP-engineered transgenic animals for commercial applications. Under the terms of the agreement, Sigma made a total upfront payment of \$20.0 million. There were two components to the \$20.0 million we received: an equity investment by Sigma in 636,133 shares of Sangamo common stock valued at \$4.9 million, and a \$15.1 million upfront license fee. The upfront license fee was recognized as revenue on a straight-line basis from the effective date of the expanded license through July 2010, which represents the period over which we were obligated to perform research services for Sigma. Sangamo is also eligible to receive commercial license fees of \$5.0 million based upon a percentage of net sales and sublicensing revenue and thereafter a royalty of 10.5% of net sales and sublicensing revenue. In addition, upon the achievement of certain cumulative commercial milestones Sigma will make milestone payments to Sangamo up to an aggregate of \$25.0 million.

The agreements may be terminated by Sigma at any time with a 90-day notice or by either party upon an uncured material breach of the agreements by the other party. As a result, actual future milestone payments could be lower than the amounts stated above. In the event of any termination, all rights to use our ZFP technology will revert to us, and Sigma will no longer be permitted to practice our ZFP technology or to develop or, except in limited circumstances, commercialize any products derived from our ZFP technology.

Revenues related to the Sigma agreements, excluding royalty revenues, were \$11.6 million, \$11.1 million and \$3.3 million during 2010, 2009 and 2008, respectively. Royalty revenues under the Sigma agreement were \$734,000, \$332,000 and \$388,000 during 2010, 2009 and 2008, respectively. Related costs and expenses incurred under the Sigma agreement were \$1.2 million, \$2.6 million and \$2.2 million during 2010, 2009 and 2008, respectively.



## **Table of Contents**

### **Agreement with Dow AgroSciences in Plant Agriculture**

In October 2005, we entered into an exclusive commercial license with Dow AgroSciences LLC (DAS). Under this agreement, we are providing DAS with access to our proprietary zinc finger DNA-binding protein (ZFP) technology and the exclusive right to use our ZFP technology to modify the genomes or alter the nucleic acid or protein expression of plant cells, plants, or plant cell cultures. We have retained rights to use plants or plant-derived products to deliver ZFP TFs or ZFNs into human or animals for diagnostic, therapeutic, or prophylactic purposes.

Pursuant to the Research License and Commercial Option Agreement which we entered into in October 2005, DAS made an initial cash payment to us of \$7.5 million. In November 2005, the Company sold approximately 1.0 million shares of common stock to DAS at a price of \$3.85 per share, resulting in proceeds of \$3.9 million. Our agreement with DAS provided for an initial three-year research term during which DAS agreed to pay Sangamo \$6.0 million in research funding over the three-year period and make additional payments of up to \$4.0 million in research milestone payments during this same period, depending on the success of the research program. In June 2008, DAS exercised its option under the agreement to obtain a commercial license to sell products incorporating or derived from plant cells generated using our ZFP technology, including agricultural crops, industrial products and plant-derived biopharmaceuticals. The exercise of the option triggered a one-time commercial license fee of \$6.0 million, payment of the remaining \$2.3 million of the previously agreed \$4.0 million in research milestones, development and commercialization milestone payments for each product, and royalties on sales of products.

We agreed to supply DAS and its sublicensees with ZFP TFs and/or ZFNs for both research and commercial use over the initial three year period of the agreement and have amended and extended this provision. The agreement also provides for minimum sublicense fees each year due to us every October, provided the agreement is not terminated by DAS. Annual fees range from \$250,000 to \$3.0 million and total \$25.3 million over 11 years. Furthermore, DAS has the right to sublicense our ZFP technology to third parties for use in plant cells, plants, or plant cell cultures, and we will be entitled to 25% of any cash consideration received by DAS under such sublicenses. We do not have any performance obligations with respect to the sublicensing activities to be conducted by DAS. DAS has the right to terminate the agreement at any time; accordingly, our actual sublicense fees over the term of the agreement could be lower than \$25.3 million. In addition, each party may terminate the agreement upon an uncured material breach of the agreement by the other party. In the event of any termination of the agreement, all rights to use our ZFP technology will revert to us, and DAS will no longer be permitted to practice our ZFP technology or to develop or, except in limited circumstances, commercialize any products derived from our ZFP technology.

The commercial license fee of \$6.0 million, the remaining research milestones of \$2.3 million and the unrecognized portion of the initial cash payment were recognized ratably over the period from option exercise through December 31, 2010. In December 2010, we amended our agreement with DAS to extend the period of reagent manufacturing services through December 31, 2011 and research services through December 31, 2012.

Revenues under the agreement were \$4.4 million, \$8.8 million and \$7.4 million during 2010, 2009 and 2008, respectively. Related costs and expenses incurred under the agreement were \$671,000, \$639,000 and \$391,000 during 2010, 2009 and 2008, respectively.

### **Other Programs and Partners**

Prior to our agreements with Sigma and DAS we marketed our ZFP TF and ZFN technology and intellectual property in products and areas outside ZFP Therapeutics directly to the pharmaceutical and biotechnology industry and established agreements in cell line engineering for pharmaceutical protein production and the development of transgenic animals.

## **Table of Contents**

### ***Pharmaceutical Protein Production***

The production of pharmaceutical proteins, such as therapeutic antibodies, is an important area of commercial growth. Sangamo scientists and their collaborators have demonstrated that ZFP-engineered mammalian cells may be used to increase the yield of systems used for pharmaceutical protein production.

We have established several research collaborations in this area. Commencing in December 2004, we had a research collaboration agreement with Pfizer Inc. (Pfizer) to use our ZFP technology to develop enhanced cell lines for protein pharmaceutical production. Under the terms of the agreement, Pfizer funded research at Sangamo and we provided our proprietary ZFP technology for Pfizer to assess its feasibility for use in mammalian cell-based protein production. We generated novel cell lines and vector systems for enhanced protein production as well as novel technology for rapid creation of new production cell lines. As of December 31, 2009, we have received all funding due from Pfizer under the 2004 research collaboration agreement. In December 2008, we entered into a license agreement with Pfizer to provide Pfizer with a worldwide, non-exclusive license for the use of certain ZFP Nuclease (ZFNs) reagents to permanently eliminate the Glutamine Synthetase (GS) gene in Chinese Hamster Ovary (CHO) cell lines and for the use of these ZFN-modified cells for clinical and commercial production of therapeutic proteins. Under the terms of this agreement we received a one time payment of \$3.0 million from Pfizer for a fully paid commercial license.

Revenues under the Pfizer agreements were \$0, \$325,000 and \$3.0 million in 2010, 2009 and 2008, respectively. Related costs and expenses incurred under the Pfizer agreements were \$0, \$0 and \$66,000 in 2010, 2009 and 2008, respectively.

In April 2007, we entered into a research and license agreement with Genentech, Inc. pursuant to which we provide Genentech with access to our proprietary ZFN technology for use in mammalian cell-based protein pharmaceutical production. Under the research and license agreement, we developed and delivered to Genentech ZFNs capable of making certain targeted modifications to the genome of an identified Genentech cell line to generate cell lines with novel characteristics for protein pharmaceuticals. In the research and license agreement, we granted Genentech a non-exclusive, worldwide, sublicensable right to use our ZFNs to generate cell lines with novel characteristics for protein pharmaceutical production purposes and to generate the same targeted modifications in the Genentech cell lines using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. Under the research and license agreement, to date Genentech has paid us a total of \$1.2 million, which consists of an upfront fee, technology access fees and milestone payments for the achievement of research-based milestones. Genentech has continuing obligations to pay us an annual technology access fee and, for each product developed by Genentech containing a protein expressed by the modified cell line created using our ZFN technology, aggregate milestone payments of up to \$5.4 million upon achievement of specified milestones relating to the development and commercialization of such products. We have retained the sole right, at our discretion, to enforce alleged infringements on our ZFP intellectual property; provided, however, that if we fail to abate such alleged infringements involving modifications to the genome of the identified Genentech cell line within a specified period of time, Genentech has the right to reduce the amount of the milestone payments until we abate such infringement or until there is a final determination regarding the infringement. The research and license agreement continues until the later of ten years or expiration of the last valid patent claim covering the products containing a protein expressed by the modified cell line generated using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. In addition, Genentech may terminate the research and license agreement upon thirty days written notice. Either party may terminate the agreement upon a material breach by the other party.

In February 2008, we entered into a second research and license agreement with Genentech, which expanded the relationship established in the April 2007 research and license agreement by increasing the number of potential targets in the genome of the identified Genentech cell line against which Genentech may use or apply our ZFN technology in mammalian cell-based protein pharmaceutical production. With respect to each potential target identified by Genentech, Genentech will pay us an up-front fee, an annual on-going technology access fee,

---

**Table of Contents**

and milestone payments upon achievement of specified milestones relating to the construction and delivery of ZFNs. In addition, for each product developed by Genentech containing a protein expressed by a modified cell line using our ZFN technology, Genentech will make aggregate milestone payments of up to \$5.4 million upon the achievement of specified milestones relating to the development and commercialization of such products. Under the second license and research agreement, to date Genentech has paid us \$275,000 for an up-front fee, annual technology access fees and the achievement of research-based milestones. We have retained the sole right, at our discretion, to enforce alleged infringements on our ZFN intellectual property; provided, however, that if we fail to abate such alleged infringements involving the modifications to the genome of the identified Genentech cell line relating to the second research and license agreement within a specified period of time, Genentech has the right to reduce the amount of the milestone payments until we abate such infringement or until there is a final determination regarding the infringement. The second research and license agreement continues until the later of ten years or expiration of the last valid patent claim covering the products containing a protein expressed by the modified cell line generated using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. In addition, Genentech may terminate at any time any research plan or license relating to a designated target. Either party may terminate the agreement upon a material breach by the other party.

In addition, pursuant to a license agreement between Sangamo and Sigma, effective as of July 10, 2007, Sigma has the exclusive right to offer certain services to Genentech involving Sangamo's ZFN technology that are covered under the second research and license agreement. Notwithstanding such exclusive right, Sigma has agreed to permit Sangamo to directly offer the ZFN-related services to Genentech under the second research and license agreement, and in exchange we have and will continue to share with Sigma certain payments made to us under the second research and license agreement. Revenues attributable to collaborative research and development performed under the Genentech agreement were \$150,000, \$517,000 and \$389,000 during 2010, 2009 and 2008, respectively. Related costs and expenses performed under the Genentech agreement were \$38,000, \$195,000 and \$147,000 during 2010, 2009 and 2008, respectively.

***Transgenic Animals***

In April 2008, we entered into a license agreement with Open Monoclonal Technology, Inc. (OMT), pursuant to which we granted a royalty-bearing, non-exclusive, sublicensable worldwide license to OMT for the commercial use of a transgenic animal generated using our ZFN technology. In addition, we have agreed not to transfer ZFNs to third parties for commercial uses similar to OMT's intended use under the agreement. In consideration of the license and rights granted to OMT, OMT paid us an upfront license fee, and will pay us for each product created or developed through use of Sangamo's ZFN technology aggregate milestone payments of up to \$850,000 upon the achievement of certain specified clinical development milestones, a small percentage royalty on sales of any product developed using Sangamo's ZFN technology and a low single-digit percentage share of payments received by OMT from sublicensees. For any given OMT product, OMT has the right to buy out its future royalty payment obligations under the license agreement by paying a lump sum fee to us. To date, OMT has paid us \$250,000 under the license agreement. We have retained the sole right, at our discretion, to take appropriate actions against persons infringing on our transgenic animal related intellectual property. The license agreement shall continue in effect until neither OMT nor we have any further payment obligations. OMT may terminate the license agreement at any time. Either party may terminate the agreement upon a material breach by the other party.

In July 2008, we entered into a research and license agreement with F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. (collectively, Roche), pursuant to which we provided Roche with access to aspects of our proprietary ZFN technology. During an initial research term, Roche had the right to use ZFNs provided by us to generate ZFN-modified cell lines and animals having targeted modifications in a specified gene in a specified species, solely for research purposes. In December 2009, pursuant to the research and license agreement Roche exercised an option to receive an exclusive, worldwide license to use such animals in the production of therapeutic and diagnostic products. This exclusive commercial license shall continue, on a country-by-country and

## **Table of Contents**

product-by-product basis, until the later of 10 years after the first commercial sale in such country or the expiration of the last valid patent claim covering such product. We have agreed not to transfer or license to third parties the specific ZFNs provided to Roche under the research and license agreement, or derivatives of such ZFNs.

Under the research and license agreement, to date Roche has paid us \$550,000 for research milestone payments, quarterly maintenance research fees and an option license fee. Roche has agreed to pay us an additional research fee upon the delivery of the ZFN specified in the research and license agreement, a quarterly ongoing research maintenance fee during the research term and milestone payments upon the achievement of certain clinical development milestones relating to products produced under such commercial license, and low-single digit royalties on sales of such products. The aggregate milestone payments for therapeutic products will not exceed \$5.75 million, but the diagnostics milestone payments are not similarly capped. Under the research and license agreement, on a product-by-product basis, Roche has the right to buy out its future royalty payment obligations by paying specified fixed amounts. Roche has the right to terminate this research and license agreement in its entirety or in part (on a country and product basis) upon thirty days advance written notice. Either party may terminate the agreement upon a material breach by the other party.

Pursuant to the July 2007 License Agreement between Sigma and Sangamo, Sigma has the exclusive right to offer certain services involving Sangamo's ZFN technology that are covered under the research and license agreements with Roche and OMT. Notwithstanding this exclusive right, Sigma has agreed that we may directly offer the ZFN-related services to Roche and OMT under the research and license agreement and in return we have and will continue to share with Sigma certain payments made to us under the research and license agreement. Revenues recognized under the Roche and OMT agreements, net of payments made to Sigma, are included in royalty revenues attributable to the Sigma agreement, as described above.

## **Funding from Research Foundations**

### ***The Juvenile Diabetes Research Foundation International***

In October 2006, we announced a partnership with the Juvenile Diabetes Research Foundation International (JDRF) to provide financial support to one of our Phase 2 human clinical studies (SB-509-601) of SB-509, a ZFP Therapeutic that is in development for the treatment of diabetic neuropathy. Under the agreement with JDRF and subject to its terms and conditions, including our achievement of certain milestones associated with the Phase 2 clinical trial (SB-509-601) of SB-509 for the treatment of mild to moderate diabetic neuropathy, JDRF was obligated to pay us an aggregate amount of up to \$3.0 million which was received in full through December 31, 2009. After the first commercial launch of SB-509 in a major market, JDRF has the right to receive, subject to certain limitations, annual payments from Sangamo, until such time when the total amount paid to JDRF, including payments made on account of certain licensing arrangements, equals three times the amount received by us from JDRF.

In January 2010, JDRF and Sangamo amended the agreement and subject to its terms and conditions, JDRF will provide additional funding of up to \$3.0 million for a Phase 2b trial in diabetic neuropathy (SB-509-901) which is intended to partially fund expenses related to the trial. Under the amended agreement, we are obligated to use commercially reasonable efforts to carry out the Phase 2b trial and, thereafter, to develop and commercialize a product containing SB-509 for the treatment of diabetes and complications of diabetes. We are obligated to cover all costs of the Phase 2b trial that are not covered by JDRF's grant. If we fail to satisfy these obligations, JDRF may have the right, subject to certain limitations, to obtain an exclusive, sublicensable license, to the intellectual property generated by us in the course of the Phase 2b trial, to make and commercialize products containing SB-509 for the treatment of diabetes and complications of diabetes. If JDRF obtains such a license, it is obligated to pay us a percentage of its revenues from product sales and sublicensing arrangements. If JDRF fails to satisfy its obligations to develop and commercialize a product containing SB-509 under the agreement, then their license rights will terminate and we will receive a non-exclusive, fully paid license, for any intellectual property developed during JDRF's use of the license, to research, develop and commercialize products containing SB-509 for the treatment of diabetes and complications of diabetes.

## **Table of Contents**

Revenues attributable to research and development activities performed under the JDRF partnership were \$1.5 million, \$500,000 and \$1.0 million during 2010, 2009 and 2008, respectively.

### ***The Michael J. Fox Foundation***

In January 2007, entered into a partnership with the Michael J. Fox Foundation for Parkinson's Research (MJFF) to provide financial support of Sangamo's ZFP TFs to activate the expression of glial cell line-derived neurotrophic factor (GDNF) that has shown promise in preclinical testing to slow or stop the progression of Parkinson's disease. Under the agreement with MJFF and subject to its terms and conditions, MJFF paid us \$950,000, the total funds due under the agreement, over a period of two years. In June 2010, we received a commitment for renewed funding from MJFF to support further studies of ZFP TF activators of GDNF. Subject to the terms and conditions of the agreement, the \$895,000 award is being paid over a period of two years and is intended to substantially fund our research efforts related to the agreement. Revenue will be recognized based on expenses incurred by Sangamo in conduct of the research set forth in the agreement.

Revenues attributable to research and development performed under the MJFF partnership were \$445,000, \$0 and \$553,000 during 2010, 2009 and 2008, respectively.

### ***California Institute for Regenerative Medicine***

In October 2009, the California Institute for Regenerative Medicine (CIRM), a State of California entity, granted a \$14.5 million Disease Team Research Award to develop an AIDS-related lymphoma therapy based on the application of ZFP nuclease (ZFN) gene-editing technology in stem cells. The four year grant supports an innovative research project conducted by a multidisciplinary team of investigators, including investigators from the University of Southern California, City of Hope National Medical Center and Sangamo BioSciences. We expect to receive funding up to \$5.2 million from the total amount awarded based on expenses incurred for research and development efforts by us as prescribed in the agreement. The award is intended to substantially fund our research and development efforts related to the agreement. The State of California has the right to receive, subject to the terms and conditions of the agreement, payments from us resulting from sales of a commercial product resulting from research and development efforts supported by the grant, not to exceed two times the amount we receive in funding under the agreement with CIRM.

Revenues attributable to research and development performed under the CIRM grant agreement were \$989,000, \$0 and \$0 during 2010, 2009 and 2008, respectively.

### ***The Bill and Melinda Gates Foundation***

In May 2009, Sangamo announced that it had been awarded a Grand Challenges Explorations Grant of \$100,000 by the Bill and Melinda Gates Foundation (Gates Foundation) to support research into the use of Sangamo's ZFNs to develop an *in vivo* treatment of HIV/AIDS. Under the terms of the agreement, the Gates Foundation will pay Sangamo the award based on reimbursement of qualified expenses incurred by Sangamo.

Revenues attributable to research and development performed under the grant were \$100,000 during 2009.

## **Funding from Other Sources**

### ***Qualifying Therapeutic Discovery Project Program***

In October 2010, Sangamo was awarded a total of \$978,000 in grants for four qualifying therapeutic discovery projects under the Patient Protection and Affordable Care Act. The grants are intended to assist in the advancement of four of Sangamo's ongoing therapeutic projects:

SB-509 for Diabetic Peripheral Neuropathy

---

**Table of Contents**

SB-509 for Amyotrophic Lateral Sclerosis (ALS)

SB-728-T for Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS)

SB-313-xTZ for Recurrent or Refractory Glioblastoma Multiforme

Each project was awarded \$244,000, the maximum amount awarded for any single project, based on qualifying expenses incurred by Sangamo. The total amount awarded was received, and recognized as research grant revenues, during the fourth quarter of 2010.

**INTELLECTUAL PROPERTY AND TECHNOLOGY LICENSES**

Patents and licenses are important to our business. Our strategy is to file or license patent applications to protect technology, inventions and improvements to inventions that we consider important for the development of our technology. We seek patent protection and licenses that relate to our technology and candidates in our pipeline and/or may be important to our future. We have filed numerous patents and patent applications with the United States Patent and Trademark Office (USPTO) and foreign jurisdictions. This proprietary intellectual property includes methods relating to the design of zinc finger proteins, therapeutic applications and enabling technologies. We rely on a combination of patent, copyright, trademark, proprietary know how, continuing technological innovations, trade secret laws, as well as confidentiality agreements, materials transfer agreements and licensing agreements, to establish and protect our proprietary rights.

**Technology Licenses**

We have licensed intellectual property directed to the design, selection, and use of ZFPs, ZFP TFs and ZFNs for gene regulation and modification from the Massachusetts Institute of Technology, Johnson & Johnson, The Scripps Research Institute, The Johns Hopkins University, Harvard University, the Medical Research Council, the California Institute of Technology, City of Hope, and the University of Utah. These licenses grant us rights to make, use, and sell ZFPs, ZFP TFs, and ZFNs under 15 families of patent filings. As of February 1, 2011 these patent filings have resulted in 20 issued U.S. patents and 29 granted foreign patents, with 6 currently pending U.S. patent applications and 33 pending applications in foreign patent offices.

We believe that these in-licensed patents and patent applications include several of the early and important patent filings directed at the design, selection, composition and use of ZFPs, ZFP TFs and ZFNs, particularly the agreements with Johns Hopkins University, the Massachusetts Institute of Technology, Johnson & Johnson and The Scripps Research Institute.

***Johns Hopkins University***

We entered into a license agreement with the Johns Hopkins University on June 29, 1995, as subsequently amended, whereby Johns Hopkins University granted us a worldwide exclusive license to technology and patents relating to nuclease and gene targeting technology for all fields of use, including the right to sublicense. Under the license agreement, we are obligated to pay low single-digit royalties on licensed product sales, a low single-digit percentage of license fees received from sublicensees and a high single-digit or low teens percentage of sublicense royalties received from sublicensees for sales of products. We are subject to an annual minimum royalty, which we currently pay. The license agreement expires upon the expiration of the last patent covered by the license agreement. Based on currently issued patents, the license agreement will terminate on approximately February 10, 2014. Johns Hopkins University may terminate the license agreement upon a material default by us that remains uncured following written notice. We may terminate the license agreement at any time upon six months written notice.

## **Table of Contents**

### ***Massachusetts Institute of Technology***

We entered into a patent license agreement with the Massachusetts Institute of Technology, or MIT, on May 9, 1996, as subsequently amended, whereby Massachusetts Institute of Technology granted us a worldwide exclusive license to technology and patents relating to the design, selection and use of ZFPs for all fields of use, including the right to sublicense. Under the patent license agreement, we are obligated to pay an annual license fee, low single-digit royalties of product sales, an up-front sublicense and annual sublicense fees, a percentage of its sublicense revenues, and milestone payments upon achievement of certain commercial development milestones. The aggregate milestone payments under the patent license agreement are \$450,000, of which \$150,000 has been paid. The patent license agreement expires upon the expiration of the last patent covered by the patent license agreement. Based on currently issued patents and currently filed patent applications, the patent license agreement will terminate on or about September 13, 2022. MIT may terminate the license agreement upon a material default by us that remains uncured following written notice. We may terminate the license agreement at any time upon six months' written notice.

### ***Johnson & Johnson***

We entered into a sublicense agreement with Johnson & Johnson on May 9, 1996, whereby Johnson & Johnson granted us a worldwide exclusive sublicense to technology and patents for the research, development and commercialization of human and animal therapeutic and diagnostic products using engineered ZFPs, including the right to sublicense. These patents were originally exclusively licensed by Johnson & Johnson from The Scripps Research Institute. Under the sublicense agreement, we will pay low single-digit royalty payments based upon sales of license products by us or our sublicensees and a milestone payment upon the achievement of a commercial development milestone. The sublicense agreement expires upon the expiration of the last patent covered by the sublicense agreement. Based on currently issued patents and currently filed patent applications, the sublicense agreement will terminate on or about June 5, 2018. Johnson & Johnson has the right to terminate the sublicense agreement upon a breach or default by us that remains uncured following written notice of such default. We may terminate the sublicense agreement at any time upon sixty days' written notice.

### ***The Scripps Research Institute***

We entered into a license agreement with The Scripps Research Institute on March 14, 2000, as subsequently amended, whereby The Scripps Research Institute granted us a worldwide exclusive license to technology and patents for the research, development and commercialization of products and services using engineered ZFPs, excluding the use of these engineered ZFPs in plant agriculture, therapeutics and diagnostics. Under the license agreement, we are required to pay a low-single digit royalty on sales of licensed products by us and our sublicensees, subject to an annual minimum. The license agreement expires upon the expiration of the last patent covered by the license agreement. Based on currently issued patents and currently filed patent applications, the license agreement will terminate on or about June 5, 2018. Each party may terminate the license agreement upon a material default by the other party that remains uncured following written notice.

### **Sangamo Intellectual Property**

In addition to our in-licensed patent portfolio, as of February 1, 2011, we had 89 families of Sangamo-owned or co-owned patent filings, including 62 issued U.S. patents, 172 granted foreign patents, 92 pending U.S. patent applications and 228 pending foreign patent applications. These patent filings are directed to the design, composition, and use of ZFPs, ZFP TFs, and ZFNs. The earliest patents in our portfolio are set to begin expiring in 2015, with the majority of our currently issued patents expiring between 2019 and 2021. However, these patents in our estate may be subject to Patent Term Adjustment (due to delays in patent prosecution by the USPTO), Patent Term Extension (due to review of a patented product by a regulatory agency) or terminal disclaimer. Additionally, patents that may be issued from our pending applications will extend the patent exclusivity of our patent estate. Accordingly, all dates given above for patent expirations are estimates and the actual dates of expirations may differ.

---

**Table of Contents**

We believe that our licensed patents and patent applications, as well as the issued Sangamo patents and pending Sangamo patent applications, in the aggregate, will provide us with a substantial proprietary position in our commercial development of ZFP technology. In this regard, patents issued to us, applied for by us, or exclusively and non-exclusively licensed to us, cover the following types of inventions, processes and products:

*ZFP and ZFN design, engineering and compositions:* includes DNA target site selection and zinc finger binding domain design (see newly issued US7759059), target site arrays, ZFP libraries (see newly issued US7788044 and US7700523) databases and methods of construction, as well as methods to increase zinc finger binding specificity, linker designs (see newly issued US7851216), and methods of making modified plant zinc finger proteins;

*ZFP targeted regulation of endogenous genes:* methods relating to activation and inhibition of endogenous cellular genes, modulation of ZFP-regulated gene expression by small molecules, identification of accessible regions within chromatin, regulation of tocopherol synthesis in plants, and regulation of endogenous plant genes (see newly issued US7705139);

*ZFP Therapeutics:* Treatment of virally or microbially infected cells, cancer therapeutics such as methods to alter tumor growth, activation of endogenous PEDF for treatment of head and neck cancer, glioblastoma, prostate cancer and pancreatic cancer, regulation of angiogenesis (including newly issued US7795209 and US7732196), treatments for ischemic conditions, neuropathic pain, crushed nerves, Parkinson's disease, chronic pain, diabetic neuropathy, peripheral vascular disease, ocular neovascularization including age-related macular degeneration (AMD), diabetic retinopathy (DR) and retinopathy of prematurity, modulation of cardiac contractility and methods to regulate the glucocorticoid receptor;

*ZFN Therapeutics:* Treatments for HIV, sickle cell anemia, and X-linked severe combined immunodeficiency (SCID);

*Non-Therapeutic Applications of ZFPs:* Methods for linking genes and phenotypes, identification of genes, analysis of gene regulation, structure and biological function (see US20030129603, for which we have recently received a Notice of Allowance), methods of agricultural biotechnology, methods of altering cellular differentiation state, methods of chromatin modification (see newly issued US7785792) and methods of introducing exogenous nucleic acids of interest into a safe harbor locus; and

*Non-Therapeutic Applications of ZFNs:* Methods for identification of regulatory DNA sequences, prediction of patient response to drug therapeutics, and development of cell lines for improved protein production.

We have been advised that certain aspects of our technology can give us and our collaborators independence from third party patent claims to gene sequences. In general, under United States patent law, a patent may be obtained for any new and useful process, machine, manufacture, or composition of matter. An underlying theme of United States patent law, as related to biotechnology, is that the sequence of a gene, as it exists in the chromosome, is not new, even when newly discovered, unless it is isolated or modified from its normal chromosomal context. As a result, for over a decade, patent courts have held that a DNA sequence must be purified, isolated or modified to be patentable. Accordingly, U.S. patent claims to DNA sequences can cover only isolated, purified or modified nucleic acid sequences (e.g., a purified DNA fragment or a DNA sequence inserted into a vector). We have been advised that U.S. patent claims to DNA sequences do not, and cannot, cover gene sequences as they exist in their natural chromosomal environment, and international patent law is even more stringent than U.S. patent law in this regard. Most current methods for over-expression of a gene or protein involve the introduction into a cell of a vector containing a DNA encoding the protein to be over-expressed. Since such a vector contains isolated sequences which encode the protein, it would be covered by any patent claims to those sequences. In contrast, our methods for over-expression utilize ZFP TFs that target endogenous genes as they exist in the chromosome. As a result, our methods do not require the use of isolated DNA sequences encoding the protein to be over-expressed and, our counsel has advised us, do not infringe patent



## **Table of Contents**

claims to such sequences. Notwithstanding this advice, we realize that others could take a contrary position that could result in litigation. While we believe that we would prevail in any such litigation, the uncertainties involved in litigation generally make it impossible to provide assurance as to the ultimate outcome of such matters. See *Risk Factors Because it is difficult and costly to protect our proprietary rights, and third parties have filed patent applications that are similar to ours, we cannot ensure the proprietary protection of our technologies and products.*

The patent positions of pharmaceutical and biotechnology firms, including our patent position, are uncertain and involve complex legal and factual questions for which important legal tenets are largely unresolved. Patent applications may not result in the issuance of patents and the coverage claimed in a patent application may be significantly reduced before a patent is issued. Although we have filed for patents on some aspects of our technology, we cannot provide assurances that patents will be issued as a result of these pending applications or that any patent that has been or may be issued will be upheld. The laws of some foreign countries may not protect our proprietary rights to the same extent as do the laws of the United States. One of our foreign patents, which forms the basis for five European Regional Phase patents, has been revoked as a result of an opposition by a third party. Our licensor, The Johns Hopkins University, appealed the revocation. In April 2007, the European Technical Board of Appeal released its decision dismissing the appeal. As of January 13, 2011, the reexamination of US patent number US6265196, licensed to Sangamo from The Johns Hopkins University, was terminated by the USPTO with the publication of a notice of intent to issue a Reexamination Certificate. In addition, in 2008 US5792640, also licensed from Johns Hopkins University, completed a first re-examination process and a re-exam certificate was issued on September 9, 2008. A second re-exam proceeding ordered on November 4, 2008 was recently completed and a Reexamination Certificate was issued on January 5, 2011. These reexamination procedures have narrowed the scope of claims provided under the original patent issued. Accordingly, while we have preserved specific protection afforded under the original patent relating to our engineered ZFN technology, we do not have a valid claim over the full scope of the patent as originally issued.

In the future, third parties may assert patent, copyright, trademark, and other intellectual property rights to technologies that are important to our business. Any claims asserting that our products infringe or may infringe proprietary rights of third parties, if determined adversely to us, could significantly harm our business. See *Risk Factors Because it is difficult and costly to protect our proprietary rights, and third parties have filed patent applications that are similar to ours, we cannot ensure the proprietary protection of our technologies and products.*

## **Estimated Licensing Expenses**

If we are successful in the development and commercialization of our products, we will be obligated by our license agreements to make milestone and royalty payments to some or all of the licensors mentioned above. For risks associated with our intellectual property, see *Risk Factors Because it is difficult and costly to protect our proprietary rights, and third parties have filed patent applications that are similar to ours, we cannot ensure the proprietary protection of our technologies and products.* We plan to continue to license and to internally generate intellectual property covering the design, selection, composition, and use of ZFPs; the genes encoding these proteins; and the application of ZFPs, ZFP TFs, and ZFNs in ZFP Therapeutics, and non-therapeutic applications of the technology including applications in research and plant agriculture.

## **COMPETITION**

We, and our licensed partners, are the leaders in the research, development, and commercialization of DNA binding proteins for the regulation of gene expression and gene modification. We are aware of several companies focused on other methods for regulating gene expression and a limited number of commercial and academic groups pursuing the development of ZFP gene regulation and gene modification technology. The field of applied gene regulation and gene modification is highly competitive and we expect competition to persist and intensify in the future from a number of different sources, including pharmaceutical, agricultural, and biotechnology

## **Table of Contents**

companies; academic and research institutions; and government agencies that will seek to develop ZFPs as well as technologies that will compete with our ZFP technology platform.

Accordingly, our competitors may succeed in obtaining patent protection, receiving FDA approval, or commercializing ZFP Therapeutics or other competitive products before us. If we commence commercial product sales, we may be competing against companies with greater marketing and manufacturing capabilities, areas in which we have limited or no experience. In addition, any product candidate that we successfully develop may compete with existing products that have long histories of safe and effective use.

Although we are in the clinical development phase of operations and have no current therapeutic product sales, we believe the following companies, products and/or technologies may potentially be competitive with our technology or our products under development:

Small molecules in development from both in-house drug discovery programs of pharmaceutical companies such as Eli Lilly and Company, Merck & Co., Inc., Takeda Pharmaceutical Company Limited and Pfizer, Inc. as well as from biotechnology companies with expertise and capabilities in small molecule discovery and development such as Exelixis Inc., Rigel Pharmaceuticals and Gilead.

Monoclonal antibody companies and product candidates from certain biotechnology firms such as Amgen Inc., Genentech, Inc., and Human Genome Sciences.

Protein pharmaceuticals under development at pharmaceutical and biotechnology companies such as Amgen Inc., Biogen Idec, Eli Lilly and Company, Genentech, Inc., Johnson & Johnson and numerous other pharmaceutical and biotechnology firms.

Gene therapy companies developing gene-based products in clinical trials. None of these products have yet been approved. Our competitors in this category may include Amsterdam Molecular Therapeutics, GenVec Inc. and VIRxSYS Corporation.

Cell therapy companies developing cell-based products. Our competitors in this category may include Dendreon.

Antisense therapeutics and RNA interference technology, including RNAi and microRNA, which are technologies that may compete with ZFP Therapeutics in the development of novel therapeutic products acting through the regulation of gene expression. These technologies are being developed by several companies including Alnylam Pharmaceuticals, Inc., Isis Pharmaceuticals, Inc., Regulus Therapeutics, LLC and Merck & Co. Inc.

Nuclease technologies. Collectis SA is developing TALE nucleases and Collectis SA and Precision BioSciences, Inc. are developing meganucleases to accomplish gene modification.

We expect to face intense competition from other companies for collaborative arrangements with pharmaceutical and biotechnology companies; for establishing relationships with academic and research institutions; and for licenses to proprietary technology. These competitors, either alone or with their collaborative partners, may succeed in developing technologies or products that are more effective or less costly than ours.

Our ability to compete successfully will depend, in part, on our ability to:

develop safe and efficacious proprietary products;

obtain access to gene transfer technology on commercially reasonable terms;

obtain required regulatory approvals;

attract and retain qualified scientific and product development personnel;

obtain and enforce patents, licenses, or other proprietary protection for our products and technologies;

## **Table of Contents**

formulate, manufacture, market, and sell any product that we develop; and

develop and maintain products that reach the market first and are technologically superior to or are of lower cost than other products in the market;

## **GOVERNMENT REGULATION**

The research, testing manufacturing and marketing of human therapeutics are extensively regulated in the United States and the rest of the world.

Before marketing in the United States, any therapeutic or pharmaceutical products developed by us must undergo rigorous preclinical testing (generally conducted in animals) and clinical trials in humans and an extensive regulatory clearance process implemented by the U.S. Food and Drug Administration (FDA) under the federal Food, Drug and Cosmetic Act. The FDA regulates, among other things, the development, testing, manufacture, safety, efficacy, record keeping, labeling, storage, approval, advertising, promotion, sale, and distribution of biopharmaceutical products. The regulatory review and approval process, which includes preclinical testing and clinical trials of each product candidate, is lengthy, expensive, and uncertain. Securing FDA approval requires the submission of extensive preclinical and clinical data and supporting information including manufacturing information and stability data to the FDA for each indication to establish a product candidate's safety and efficacy. The approval process takes many years, requires the expenditure of substantial resources, involves post-marketing surveillance, and may involve ongoing requirements for post-marketing studies.

Before commencing clinical investigations in humans in the U.S., we must carry out preclinical testing. In addition, our proposed clinical studies require review from the Recombinant DNA Advisory Committee (RAC), which is the advisory board to the National Institutes of Health (NIH), focusing on clinical trials involving gene transfer. We typically submit a proposed clinical protocol and other product-related information to the RAC three to six months prior to the expected IND application filing date.

Preclinical tests include laboratory and animal studies to evaluate product characteristics, potential safety and efficacy. The results of these studies must be submitted to the FDA as part of an Investigational New Drug (IND) Application, which must be reviewed by the FDA before proposed clinical testing in humans can begin. The FDA has 30 days to comment on the application and if the agency has no comments, we or our clinical partner may begin clinical trials.

Clinical trials are lengthy and are typically conducted in three sequential phases, but the phases may overlap or be combined. At each stage of testing, the proposed clinical protocol must be reviewed by the FDA and reviewed and approved by an independent ethics committee or institutional review board of each participating center before it can begin. Phase 1 usually involves the initial introduction of the investigational drug into small numbers of healthy volunteers or patients to evaluate certain factors, including its safety and dose tolerance. Phase 2 usually involves trials in a limited patient population to evaluate dosage tolerance and appropriate dosage, identify possible adverse effects and safety risks, and evaluate preliminary efficacy of the drug for specific indications. Phase 3 trials usually further evaluate clinical efficacy and test further for safety by using the drug in its final form in an expanded patient population. Phase 2 and 3 trials must be registered in a government database of clinical trials. Later clinical trials may fail to support the findings of earlier trials, which can delay, limit or prevent regulatory approvals.

We filed a Phase 1 clinical protocol for review by the RAC in the fourth quarter of 2004, an IND application in January 2005, and Phase 2 protocols for review by the FDA in 2006, 2007 and 2009 for our first product candidate, SB-509, for the potential treatment of diabetic neuropathy. In addition, in 2008 we filed an IND application for SB-509 for the treatment of ALS. We have also filed Phase 1 clinical protocols for review by the RAC for our HIV (SB-728-T) and glioblastoma programs (SB-313). Both of these program protocols received

---

## **Table of Contents**

unanimous approval from this committee. In December 2008 and August 2009, we filed IND applications for SB-728-T for the treatment of HIV/AIDS leading to the initiation of Phase 1 studies in February and October 2009, and a Phase 1/2 clinical trial of this ZFP Therapeutic in subjects infected with HIV in October 2010.

We have completed Phase 2 clinical trials (SB-509-601, SB-509-703 and SB-509-701) and have an ongoing Phase 2b trial (SB-509-901) in subjects with diabetic neuropathy. Additionally, we have completed a Phase 2 clinical trial in subjects with ALS (SB-509-801). Although our lead therapeutic candidate, SB-509, has shown a favorable safety profile to date through Phase 1 and Phase 2 testing, there can be no assurances that such a therapy will be tolerated after prolonged dosing or that clinical efficacy or safety of the product will be demonstrated in later stage testing.

The results of the preclinical and clinical testing of a pharmaceutical product are submitted to the FDA in the form of a New Drug Application (NDA), or a Biologic License Application (BLA), for approval to commence commercial sales. In responding to an NDA or a BLA, the FDA may grant marketing approval, grant conditional approval (such as an accelerated approval), request additional information, or deny the application if the FDA determines that the application does not provide an adequate basis for approval. Most research and development projects fail to produce data sufficiently compelling to enable progression through all of the stages of development and to obtain FDA approval for commercial sale. See also *Our potential therapeutic products are subject to a lengthy and uncertain regulatory process, and we may encounter unanticipated toxicity or adverse events or fail to demonstrate efficacy, causing us to delay, suspend or terminate the development of a ZFP Therapeutic. If these potential products are not approved, we will not be able to commercialize those products.* under Risk Factors below in Part I, Item 1A of this Form 10-K.

Outside the United States, our ability to market a product is contingent upon receiving marketing authorization from the appropriate regulatory authorities. The requirements governing the conduct of clinical trials, marketing authorization, pricing, and reimbursement vary widely from country to country. At present, foreign marketing authorizations are applied for at a national level; although, within the European Union (EU), registration procedures are available to companies wishing to market a product in more than one EU member state. If the regulatory authority is presented with adequate evidence of safety, quality, and efficacy, they will grant a marketing authorization. This foreign regulatory approval process involves all of the risks associated with FDA clearance discussed above.

We have hired personnel with expertise in preclinical and clinical development of therapeutic programs, clinical manufacturing and products and clinical and regulatory affairs to assist us in developing our programs and obtaining appropriate regulatory approvals as required. We also intend to work with collaborators who have experience in clinical development to assist us in obtaining regulatory approvals for collaborative products. See Risk Factors *Our potential therapeutic products are subject to a lengthy and uncertain regulatory process, and if these potential products are not approved, we will not be able to commercialize those products and Regulatory approval, if granted, may be limited to specific uses or geographic areas which could limit our ability to generate revenues.*

## **RESEARCH AND DEVELOPMENT EXPENSES**

Research and development expenses consist primarily of salaries and personnel related expenses, stock-based compensation expense, laboratory supplies, pre-clinical and clinical studies, manufacturing costs, allocated facilities costs, subcontracted research expenses and expenses for trademark registration and technology licenses. Costs to acquire technologies that are utilized in research and development and that have no alternative future use are expensed as incurred. Research and development expenses were \$33.2 million, \$29.0 million and \$31.2 million, for 2010, 2009 and 2008, respectively. We believe that continued investment in research and development is critical to attaining our strategic objectives. We expect these expenses will increase as we continue to focus on development of ZFP Therapeutics. Specifically, in order to develop ZFPs as commercially relevant therapeutics, we expect to expend additional resources on manufacturing, regulatory affairs and clinical research.

## **Table of Contents**

### **EMPLOYEES**

As of February 1, 2011, we had 81 full-time employees, all of whom are located at our headquarters in Richmond, California. None of our employees are represented by a collective bargaining organization or covered by a collective bargaining agreement, nor have we experienced work stoppages. We believe that our relations with our employees are good.

### **AVAILABLE INFORMATION**

Sangamo can be found on the internet at <http://www.sangamo.com>. We make available free of charge, on or through our internet site, our annual, quarterly, and current reports and any amendments to those reports filed or furnished pursuant to Section 13(a) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information contained in Sangamo's internet site is not part of, nor incorporated by reference into, this report.

### **ITEM 1A RISK FACTORS**

This Form 10-K contains forward-looking information based on our current expectations. Because our actual results may differ materially from any forward-looking statements made by or on behalf of Sangamo, this section includes a discussion of important factors that could affect our actual future results, including, but not limited to, our revenues, expenses, net loss and loss per share.

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

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

We have initiated and completed enrollment of a Phase 1 study and several Phase 2 clinical trials of our lead ZFP Therapeutic, SB-509, for diabetic neuropathy and ALS and the drug has been well tolerated. However, if our lead ZFP Therapeutic fails one of its safety studies, it could reduce our ability to attract new investors and corporate partners. In January 2005, we filed an IND application with the FDA for SB-509, a ZFP TF activator of VEGF-A, for the treatment of mild to moderate diabetic neuropathy. We completed enrollment and treatment of a Phase 1, single blind, single dose, dose-escalation trial to measure the laboratory and clinical safety of SB-509. We have completed enrollment and treatment of repeat-dosing Phase 2 clinical trials (SB-509-601, SB-509-701) and SB-509-703) and have an ongoing Phase 2b trial (SB-509-901). We also have completed a Phase 2 clinical trial (SB-509-801) to evaluate SB-509 for the treatment of ALS. A significant number of the trial subjects have received more than one dose of SB-509 during the course of these Phase 2 studies and all trial subjects undergo long-term follow up examination once the study is complete. In addition, Phase 1 clinical trials of an identical ZFP TF have been carried out in subjects with peripheral artery disease. To date, in all of these subjects, the drug has been well-tolerated.

In December 2008, in collaboration with scientists at the University of Pennsylvania, an IND application was filed for a Phase 1 trial of our CCR5 ZFN-based therapeutic, SB-728-T, for treatment of HIV/AIDS. In September 2009, we announced FDA's review and acceptance of our IND application to initiate an open-label, repeat-dosing Phase 1 clinical trial of SB-728-T (SB-728-T-902). We also have an on-going Phase 1/2 trial (SB-728-T-1002). These studies are designed primarily to evaluate the safety and tolerability of this ZFP Therapeutic approach. Our clinical studies are a highly visible test of our ZFP Therapeutic approach. Since we have increased our focus on ZFP Therapeutic research and development, investors will increasingly assess the value of our technology based on the continued progress of ZFP Therapeutic products into and through clinical trials. If clinical trials of our lead therapeutic were halted due to safety concerns, this would negatively affect our operations and the value of our stock.

## **Table of Contents**

***The results of early Phase 1 and Phase 2 trials are based on a small number of patients over a short period of time, and our progress may not be indicative of results in a large number of patients or of long-term efficacy in late stage clinical trials.***

The results in early phases of clinical testing are based upon limited numbers of patients and a limited follow-up period. Typically, our Phase 1 clinical trials for indications of safety enroll less than 25 patients. The initial results from the Phase 1 clinical trial of our ZFP Therapeutic, SB-509 product, became available in the first half of 2006 and the complete data set was presented in June 2008. The primary end point of the trial was clinical and laboratory safety; however, we collected some preliminary efficacy data that showed trends of clinical improvement in some subjects. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late stage clinical trials even after achieving promising results in earlier stage clinical trials. If a larger population of patients does not experience positive results, or if these results are not reproducible, our products may not receive approval from the FDA. Failure to confirm favorable results from earlier trials by demonstrating the safety and effectiveness of our ZFP Therapeutic products in late stage clinical trials with larger patient populations could have a material adverse effect on our business that would cause our stock price to decline significantly.

Our first Phase 2 clinical trial (SB-509-601) for safety and efficacy in subjects with diabetic neuropathy enrolled 110 patients, and top-line data from this study were presented in November 2008. While these results demonstrated that the drug was well-tolerated in a repeat-dose setting, no differences were observed in neurologic end-points between the SB-509 and placebo-treated subjects other than a statistically significant improvement in intraepidermal nerve fiber density (IENFD) which is currently not an approvable end-point for this indication. Subsequently we have performed subgroup analyses of these data which suggest that positive and clinically relevant effects of the drug are more clearly demonstrated in subjects with a certain severity of disease. These retrospective subgroup analyses helped to define the inclusion criteria for subjects recruited into our ongoing Phase 2b clinical trial (SB-509-901) which could increase the risk that clinical efficacy of SB-509 will not be demonstrated.

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

Our ZFP Therapeutics may fail to show the desired safety and efficacy in initial clinical trials. We have completed a Phase 1 trial and several Phase 2 clinical trials in DN and ALS and have an ongoing Phase 2b trial of our ZFP Therapeutic for DN. We have two ongoing Phase 1 trials and a Phase 1/2 study of a ZFP Therapeutic for HIV/AIDS. However, the FDA will require additional clinical testing which involves significantly greater resources, commitments and expertise that may require us to enter into a collaborative relationship with a pharmaceutical company that could assume responsibility for late-stage development and commercialization. We have limited experience in conducting clinical trials and may not possess the necessary resources and expertise to complete such trials, and there is no guarantee that we will be able to enter into collaborative relationships with third parties that can provide us with the funding and expertise for such trials.

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

We may be competing for suitable patients with other clinical trials. We or the FDA may suspend our clinical trials at any time if either believes that we are exposing the subjects participating in these trials to unacceptable health risks. The FDA or institutional review boards and/or institutional biosafety committees at the medical institutions and healthcare facilities where we sponsor clinical trials may suspend any trial indefinitely if they find deficiencies in the conduct of these trials. The FDA and institutional review boards may also require large numbers of patients, and the FDA may require that we repeat a clinical trial.

## **Table of Contents**

*Our potential therapeutic products are subject to a lengthy and uncertain regulatory process, and we may encounter unanticipated toxicity or adverse events or fail to demonstrate efficacy, causing us to delay, suspend or terminate the development of a ZFP Therapeutic. If these potential products are not approved, we will not be able to commercialize those products.*

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

Before commencing clinical trials in humans, we must submit an Investigational New Drug (IND) application to the FDA. The FDA has 30 days to comment on the application and if the agency has no comments, we or our commercial partner may begin clinical trials.

Clinical trials are subject to oversight by institutional review boards and the FDA. In addition, our proposed clinical studies require review from the Recombinant DNA Advisory Committee (RAC), which is the advisory board to the National Institutes of Health (NIH), focusing on clinical trials involving gene transfer. We will typically submit a proposed clinical protocol and other product-related information to the RAC three to six months prior to the expected IND application filing date.

Clinical trials:

- must be conducted in conformance with the FDA's good clinical practices, within the guidelines of the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) and other applicable regulations;

- must meet requirements for Institutional Review Board (IRB) oversight;

- must follow Institutional Biosafety Committee (IBC) and NIH RAC guidelines where applicable;

- must meet requirements for informed consent;

- are subject to continuing FDA oversight;

- may require oversight by a Data Safety Monitoring Board (DSMB);

- may require large numbers of test subjects; and

- may be suspended by a commercial partner, the FDA, or us at any time if it is believed that the subjects participating in these trials are being exposed to unacceptable health risks or if the FDA finds deficiencies in the IND application or the conduct of these trials.

While we have stated our intention to file additional IND applications during the next several years, this is only a statement of intent, and we may not be able to do so because the associated product candidates may not meet the necessary preclinical requirements. In addition, there can be no assurance that, once filed, an IND application will result in the actual initiation of clinical trials.

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

We cannot commercialize any of our ZFP Therapeutics to generate revenue until the appropriate regulatory authorities have reviewed and approved the applications for the product candidates. We cannot assure that the regulatory agencies will complete their review processes in a



## Edgar Filing: SANGAMO BIOSCIENCES INC - Form 10-K

timely manner or that we will obtain regulatory approval for any product candidate that we or our collaborators develop. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product and requires the expenditure of substantial resources. Regulatory approval processes outside the United States include all of the risks associated with the FDA approval process. In addition, we may experience delays or rejections based upon

## **Table of Contents**

additional government regulation from future legislation or administrative action or changes in FDA policy during the period of product development, clinical trials and FDA regulatory review.

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

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

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

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

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

We expect to rely, to some extent, on our strategic partners to provide funding in support of our research and to perform independent research and preclinical and clinical testing. Our technology is broad based, and we do not currently possess the resources necessary to fully develop and commercialize potential products that may result from our technologies or the resources or capabilities to complete the lengthy marketing approval processes that may be required for the products. Therefore, we plan to rely on strategic partnerships to help us develop and commercialize ZFP Therapeutic products. If we are unable to find partners or if the partners we find are unable or unwilling to advance our programs, or if they do not diligently pursue product approval, this may slow our progress and defer our revenues. Our partners may sublicense or abandon development programs or we may have disagreements with our partners, which would cause associated product development to slow or cease. There can be no assurance that we will be able to establish strategic collaborations for ZFP Therapeutic product development. We may require significant time to secure collaborations or partners because we need to effectively market the benefits of our technology to these future collaborators and partners, which may direct our research and development personnel and management from our primary business operations. Further, each collaboration or partnering arrangement will involve the negotiation of terms that may be unique to each collaborator or partner. These business development efforts may not result in a collaboration or partnership.

The loss of any future partnering agreements would not only delay or terminate the potential development or commercialization of products we may derive from our technologies, but it may also delay or terminate our ability to test ZFP Therapeutic candidates for specific genes. If any partner fails to conduct the collaborative activities successfully and in a timely manner, the preclinical or clinical development or commercialization of the affected product candidates or research programs could be delayed or terminated.

Under typical partnering agreements we would expect to receive revenue for the research and development of a ZFP Therapeutic product based on achievement of specific milestones. Achieving these milestones will

## **Table of Contents**

depend, in part, on the efforts of our partner as well as our own. If we, or any partner, fail to meet specific milestones, then the partnership may be terminated, which could reduce our revenues. For more information on risks relating to our third party collaborative agreements, see Risks Relating to our Collaborative Relationships.

***We have increased the focus of our research and development programs on human therapeutics, which will increase operating expenditures and the uncertainty of our business.***

We have increased the focus of our research and development activities on ZFP Therapeutics. This change in focus has increased operating expenditures due to larger financial outlays to fund preclinical studies, manufacturing, and clinical research. The focus on ZFP Therapeutics will also increase the visibility of our lead therapeutic programs and the potential impact on the stock price of news releases relating to these programs.

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

Our proprietary research programs consist of research which is funded solely by us or by research foundation grant funding and in which we retain exclusive rights to therapeutic products generated by such research. This is in contrast to certain of our research programs that may be funded by corporate partners and in which we may share rights to any resulting products. We have conducted proprietary research since inception. However, in the past several years, our strategy has shifted toward placing greater emphasis on proprietary research and therapeutic development and we expect this trend will continue in 2011 as we continue to prosecute our Phase 1, 1/2 and Phase 2b clinical trials and bring new ZFP Therapeutics into clinical trials. Conducting proprietary research programs may not generate corresponding revenue and may create conflicts with our collaborators or strategic partners over rights to our intellectual property with respect to our proprietary research activities. Any conflict with our collaborators or strategic partners could reduce our ability to enter into future collaborations or partnering agreements and negatively impact our relationship with existing collaborators and partners which could reduce our revenue and delay or terminate our product development. The implementation of this strategy will involve substantially greater business risks, the expenditure of significantly greater funds than our historic research activities and will require substantial commitments of time from our management and staff.

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

In order to regulate or modify a gene in a cell, the ZFP TF or ZFN must be efficiently delivered to the cell. We have licensed certain gene transfer technologies for use with our Enabling Technologies, which are ZFP TFs and ZFNs used in pharmaceutical discovery research and protein production. We are evaluating these systems and other technologies that may need to be used in the delivery of ZFP TFs or ZFNs into cells for in vitro and in vivo applications, including ZFP Therapeutics. However, we may not be able to license the gene transfer technologies required to develop and commercialize our ZFP Therapeutics. We have not developed our own gene transfer technologies, and we rely on our ability to enter into license agreements to provide us with rights to the necessary gene transfer technology. The inability to obtain a license to use gene transfer technologies with entities which own such technology on reasonable commercial terms, if at all, could delay or prevent the preclinical evaluation, clinical testing, and/or commercialization of our therapeutic product candidates.

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

Even if our collaborators or strategic partners are successful in using our ZFP technology in drug discovery, protein production, therapeutic development, or plant agriculture, they may not be able to commercialize the resulting products or may decide to use other methods competitive with our technology. To date, no company has received marketing approval or has developed or commercialized any therapeutic or agricultural products based

## **Table of Contents**

on our technology. Should our technology fail to provide safe, effective, useful, or commercially viable approaches to the discovery and development of these products, this would significantly limit our business and future growth and would adversely affect our value.

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

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

rate of adoption by healthcare practitioners;

rate of a product's acceptance by the target population;

timing of market entry relative to competitive products;

availability of alternative therapies;

price of our product relative to alternative therapies;

availability of third-party reimbursement;

extent of marketing efforts by us and third-party distributors or agents retained by us; and

side effects or unfavorable publicity concerning our products or similar products.

*We do not currently have the infrastructure or capability to manufacture therapeutic products on a commercial scale.*

In order for us to commercialize these therapeutic products directly, we would need to develop, or obtain through outsourcing arrangements, the capability to execute all of these functions. If we are unable to develop or otherwise obtain the requisite preclinical, clinical, regulatory, manufacturing, marketing, and sales capabilities, we would be unable to directly commercialize our therapeutics products which would limit our future growth.

## **Risks Relating to our Industry**

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

Any products that we or our collaborators or strategic partners develop by using our ZFP technology platform will enter into highly competitive markets. Even if we are able to generate ZFP Therapeutics that are safe and effective for their intended use, competing technologies may prove to be more effective or less expensive, which, to the extent these competing technologies achieve market acceptance, will limit our revenue opportunities. In some cases, competing technologies have proven to be satisfactorily effective and less expensive, as has been the case with technologies competitive with our Enabling Technology applications. Competing technologies may include other methods of regulating gene expression or modifying genes. ZFP TFs and ZFNs have broad application in the life sciences industry and compete with a broad array of new technologies and approaches being applied to genetic research by many companies. Competing proprietary technologies with our product development focus include:

For ZFP Therapeutics:

small molecule drugs;

monoclonal antibodies;

recombinant proteins;

gene therapy/cDNAs;

**Table of Contents**

antisense; and

siRNA and microRNA approaches

gene-editing technologies

For our Non-Therapeutic Applications:

*For protein production:* gene amplification, meganucleases, TALEs, insulator technology, mini-chromosomes;

*For target validation:* antisense, siRNA;

*For plant agriculture:* recombination approaches, mutagenesis approaches, meganucleases, TALEs, mini-chromosomes; and

*For transgenic animals:* somatic nuclear transfer, embryonic stem cell and transposase technologies

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

substantially greater capital resources than ours;

larger research and development staffs and facilities than ours; and

greater experience in product development and in obtaining regulatory approvals and patent protection.

These organizations also compete with us to:

attract qualified personnel;

attract parties for acquisitions, joint ventures or other collaborations; and

license the proprietary technologies of academic and research institutions that are competitive with our technology, which may preclude us from pursuing similar opportunities.

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

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

## Edgar Filing: SANGAMO BIOSCIENCES INC - Form 10-K

Our technology involves a relatively new approach to gene regulation and gene modification. Although we have generated ZFPs for thousands of gene sequences, we have not created ZFPs for all gene sequences and may not be able to do so, which could limit the usefulness of our technology. In addition, while we have demonstrated the function of engineered ZFP TFs in mammalian cell culture, yeast, insects, plants, and animals, we have not yet definitively done so in humans, and the failure to do so could restrict our ability to develop commercially viable products. If we, and our collaborators or strategic partners, are unable to extend our results to new commercially important genes, experimental animal models, and human clinical studies, we may be unable to use our technology in all its intended applications. Also, delivery of ZFP TFs and ZFNs into cells and organisms, including humans, in these and other environments is limited by a number of technical hurdles, which we may be unable to surmount. This is a particular challenge for therapeutic applications of our technology that will require the use of gene transfer systems that may not be effective for the delivery of our ZFP TFs or ZFNs in a particular therapeutic application.

The expected value and utility of our ZFP TFs and ZFNs is in part based on our belief that the targeted or specific regulation of gene expression and targeted gene modification may enable us to develop a new

## **Table of Contents**

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

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

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

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

Genetically modified products are currently subject to public debate and heightened regulatory scrutiny, either of which could prevent or delay production of agricultural products. In October 2005, we entered into a Research License and Commercial Option Agreement with DAS. In June 2008, DAS exercised its option for a commercial license to our technology. Under this agreement, we will provide DAS with access to our proprietary ZFP technology and the exclusive right to use our ZFP technology to modify the genomes or alter the nucleic acid or protein expression of plant cells, plants, or plant cell cultures. The field-testing, production, and marketing of genetically modified plants and plant products are subject to federal, state, local, and foreign governmental regulation. Regulatory agencies administering existing or future regulations or legislation may not allow production and marketing of our genetically modified products in a timely manner or under technically or commercially feasible conditions. In addition, regulatory action or private litigation could result in expenses, delays, or other impediments to our product development programs or the commercialization of resulting products.

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

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



---

## **Table of Contents**

### **Risks Relating to our Finances**

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

We have generated operating losses since we began operations in 1995. The extent of our future losses and the timing of profitability are uncertain, and we expect to incur losses for the foreseeable future. We have been engaged in developing our ZFP TF technology since inception, which has and will continue to require significant research and development expenditures. To date, we have generated our funding from issuance of equity securities, revenues derived from strategic partnering agreements, other collaborations in non-therapeutic applications of our technology, federal government research grants and grants awarded by research foundations and . As of December 31, 2010, we had an accumulated deficit of \$217.5 million. From 2005 to date, we have generated an aggregate of approximately \$100 million in net proceeds from the sale of our equity securities. We expect to continue to incur additional operating losses for the next several years as we expand and extend our research and development activities into human therapeutic product development. If the time required to generate significant product revenues and achieve profitability is longer than we currently anticipate or if we are unable to generate liquidity through equity financing or other sources of funding, we may be forced to curtail or suspend our operations.

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

We have incurred significant operating losses and negative operating cash flows since inception and have not achieved profitability. We expect capital outlays and operating expenditures to increase over the next several years as we expand our infrastructure and research and ZFP Therapeutic product development activities. While we believe our financial resources will be adequate to sustain our current operations at least through 2012, we may need to seek additional sources of capital through equity or debt financing. In the past two years, the credit markets have experienced significant upheaval, while the equity market has demonstrated a high degree of volatility. As a result, we believe that the difficulty of an emerging biotechnology company raising capital through equity or debt financing has increased significantly. We cannot predict when, or if, the prospects for an emerging biotechnology company to raise capital will improve. In addition, as we focus our efforts on proprietary human therapeutics, we will need to seek FDA approval of potential products, a process that could cost in excess of hundreds of millions of dollars per product. We cannot be certain that we will be able to obtain financing on terms acceptable to us, or at all. Our failure to obtain adequate and timely funding will materially adversely affect our business and our ability to develop our technology and ZFP Therapeutic products. Furthermore, any sales of additional equity securities may result in dilutions to our stockholders.

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

We began operations in 1995 and are in the early phases of ZFP Therapeutic product development. We have incurred significant losses and our net losses for the past three years ended 2010, 2009 and 2008 were \$24.9, \$18.6 million and \$24.3 million, respectively. To date, our revenues have been generated from strategic partners, other collaborations in non-therapeutic applications of our technology, and federal government and research foundation grants. Since 2005, we have placed significant emphasis on higher-value therapeutic product development and related strategic partnerships. This shift in emphasis has the potential to increase the return on investment to our stockholders by allocating capital resources to higher value, therapeutic product development activities. At the same time, it increases our financial risk by increasing expenses associated with product development. In addition, the preclinical or clinical failure of any single product, such as our Phase 2b clinical trial of SB-509, may have a significant effect on the actual or perceived value of our shares. Our business is subject to all of the risks inherent in the development of a new technology, which included the need to:

attract and retain qualified scientific and technical staff and management, particularly scientific staff with expertise to develop our early-stage technology into therapeutic products;

## **Table of Contents**

obtain sufficient capital to support the expense of developing our technology platform and developing, testing, and commercializing products;

develop a market for our products;

successfully transition from a company with a research focus to a company capable of supporting commercial activities; and

attract and enter into research collaborations with research and academic institutions and scientists.

### **Risks Relating to our Collaborative Relationships**

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

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

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

***If we establish drug development collaborations, our collaborators may control aspects of our clinical trials, which could result in delays and other obstacles in the commercialization of our proposed products.***

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

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

Our collaborators or strategic partners may adopt alternative technologies, which could decrease the marketability of ZFP technology. Additionally, because many of our collaborators or strategic partners are likely to be working on more than one development project, they could choose to shift their resources to projects other than those they are working on with us. If they do so, this would delay our ability to test our technology and would delay or terminate the development of potential products based on our ZFP technology. Further, our collaborators and strategic partners may elect not to develop products arising out of our collaborative and strategic partnering arrangements or to devote sufficient resources to the development, manufacturing, marketing, or sale of these products. If any of these events occur, we may not be able to develop our technologies or commercialize our products.

---

## **Table of Contents**

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

In July 2007, we entered into a license agreement with Sigma to collaborate in the application and development of ZFP-based products for use in the laboratory research reagents markets. The agreement provides Sigma with access to Sangamo's ZFP technology and the exclusive right to use Sangamo's ZFP technology to develop and commercialize products for use as research reagents and to offer services in related research fields. This relationship was expanded in October 2009 when we amended our license agreement with Sigma to provide Sigma with the exclusive rights to develop and distribute ZFP-modified cell lines for commercial production of protein pharmaceuticals and, certain ZFP-engineered transgenic animals for commercial applications. In June 2008, following a research period, Dow AgroSciences (DAS) exercised its commercial license option under a license agreement with Sangamo relating to plant agriculture. This agreement provides DAS with the exclusive right to develop agricultural products using our ZFP technology in plant cells, plants, or plant cell cultures. Both companies also have the right to sublicense our technology in their respective areas. In addition to upfront payments, Sangamo may also receive additional license fees, shared sublicensing revenues, royalty payments and milestone payments depending on the success of the development and commercialization of the licensed products and services covered under both agreements. The commercial milestones and royalties are typically based upon net sales of licensed products.

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

***If we do not successfully commercialize certain ZFP Therapeutic programs relating to diabetic neuropathy under our agreement with JDRF, they may have the right to continue to advance the program and we may lose control of the intellectual property generated in the collaboration and development of the product and may only receive a portion of the revenue generated if commercialization by JDRF is successful.***

In October 2006, we entered into a Research, Development and Commercialization Agreement with JDRF. Under the agreement and subject to its terms and conditions, including our achievement of certain milestones associated with our Phase 2 clinical trial of SB-509 (SB-509-601) for the treatment of diabetic neuropathy, JDRF paid us a total of \$3.0 million through June 30, 2009. We were obligated to cover the costs of the Phase 2 trial that were not covered by JDRF's grant. Our agreement with JDRF was amended in January 2010 to provide up to \$3.0 million in additional funding for our Phase 2b clinical trial (SB-509-901) for the treatment of diabetic neuropathy.

Under the agreement, we are obligated to use commercially reasonable efforts to carry out the Phase 2 trial and, thereafter, to develop and commercialize a product containing SB-509 for the treatment of diabetes and complications of diabetes. If we fail to satisfy these obligations, JDRF may have the right, subject to certain limitations, to obtain an exclusive, sublicensable license, to the intellectual property generated by us in the course of the Phase 2 trial, to make and commercialize products containing SB-509 for the treatment of diabetes and complications of diabetes. If JDRF obtains such a license, it is obligated to pay us a percentage of its revenues from product sales and sublicensing arrangements. If JDRF fails to satisfy its obligations to develop and commercialize a product containing SB-509 under the agreement, then their license rights will terminate and we

## **Table of Contents**

will receive a non-exclusive, fully paid license, for any intellectual property developed during JDRF's use of the license, to research, develop and commercialize products containing SB-509 for the treatment of diabetes and complications of diabetes. There is no guarantee that we will be successful in commercializing a product containing SB-509 in the future. If we fail to do so under the agreement with JDRF, we may lose control of the intellectual property generated in the development of the product and may only receive a portion of the revenue generated if commercialization by JDRF is successful.

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

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

### **Risks Relating to our Intellectual Property and Business Operation**

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

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

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

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

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

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

we or our licensors were the first to make the inventions covered by each of our pending patent applications;

we or our licensors were the first to file patent applications for these inventions;

the patents of others will not have an adverse effect on our ability to do business;

## **Table of Contents**

others will not independently develop similar or alternative technologies or reverse engineer any of our products, processes or technologies;

any of our pending patent applications will result in issued patents;

any patents issued or licensed to us or our collaborators or strategic partners will provide a basis for commercially viable products or will provide us with any competitive advantages;

any patents issued or licensed to us will not be challenged and invalidated by third parties; or

we will develop additional products, processes or technologies that are patentable.

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

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

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

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

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

## **Table of Contents**

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

We are a small company with 81 full-time employees as of February 1, 2011, and our success depends on our continued ability to attract, retain, and motivate highly qualified management and scientific personnel and our ability to develop and maintain important relationships with leading research and academic institutions and scientists. Competition for personnel and academic and other research collaborations is intense. The success of our technology development programs depends on our ability to attract and retain highly trained personnel. We have experienced a rate of employee turnover that we believe is typical of emerging biotechnology companies. If we lose the services of personnel with the necessary skills, it could significantly impede the achievement of our research and development objectives. We are not presently aware of any plans of specific employees to retire or otherwise leave the company. If we fail to negotiate additional acceptable collaborations with academic and other research institutions and scientists, or if our existing collaborations are unsuccessful, our ZFP Therapeutic development programs may be delayed or may not succeed.

### **Risks Relating to our Common Stock and Corporate Organization**

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

During the quarter ended December 31, 2010, our common stock price ranged from a low of \$3.34 to high of \$7.11. During the past two years, our common stock price has fluctuated, ranging from a low of \$2.96 to a high of \$7.11 during the year ended December 31, 2010, and a low of \$2.72 to a high of \$9.03 during the year ended December 31, 2009. The recent market instability caused by the turmoil in the financial industry has further contributed to the volatility of our stock price. 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:

announcements by us or future partners providing updates on the progress or development status of ZFP Therapeutics;

data from clinical trials;

changes in market valuations of similar companies;

overall market conditions;

deviations in our results of operations from the guidance given by us or estimates of securities analysts;

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;

regulatory developments;

additions or departures of key personnel;

## Edgar Filing: SANGAMO BIOSCIENCES INC - Form 10-K

future sales of our common stock or other securities by the Company, management or directors, liquidation of institutional funds that comprised large holdings of Sangamo stock; and

decreases in our cash balances.

***Our common stock is relatively thinly traded, which means large transactions in our common stock may be difficult to conduct in a short time frame.***

We have a relatively low volume of daily trades in our common stock on the Nasdaq Global Market. For example, the average daily trading volume in our common stock on the Nasdaq Global Market during the three

---

**Table of Contents**

and twelve months ended December 31, 2010 was 375,000 shares and 260,000 shares, respectively. Any large transactions in our common stock may be difficult to conduct and may cause significant fluctuations in the price of our common stock.

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

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

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

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

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

In addition, our bylaws:

state that stockholders may not act by written consent but only at a stockholders' meeting;

establish advance notice requirements for nominations for election to the board of directors or proposing matters that can be acted upon at stockholders' meetings; and

prohibit stockholders from calling a special meeting of stockholders.

We are also subject to Section 203 of the Delaware General Corporation Law, which provides, subject to certain exceptions, that if a person acquires 15% of our voting stock, the person is an interested stockholder and may not engage in business combinations with us for a period of three years from the time the person acquired 15% or more of our voting stock.



**Table of Contents**

**ITEM 1B UNRESOLVED STAFF COMMENTS**

None.

**ITEM 2 PROPERTIES**

We currently lease approximately 27,000 square feet of research and office space located at 501 Canal Boulevard in Richmond, California. The lease expires in August of 2014. We believe such facilities are sufficient for the foreseeable future.

**ITEM 3 LEGAL PROCEEDINGS**

We are not a party to any material legal proceeding.

**ITEM 4 (REMOVED AND RESERVED)**

**Table of Contents****PART II****ITEM 5 MARKET FOR THE REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES**

Our common stock has traded on the Nasdaq Global Market under the symbol "SGMO" since our initial public offering on April 6, 2000.

The high and low closing prices of our common stock for each quarterly period during the last two fiscal years as reported by the NASDAQ Global Market were as follows:

**Common Stock**

	<b>Price</b>	
	<b>High</b>	<b>Low</b>
Year ended December 31, 2010		
First Quarter	\$ 6.63	\$ 4.76
Second Quarter	\$ 6.47	\$ 3.71
Third Quarter	\$ 4.72	\$ 2.96
Fourth Quarter	\$ 7.11	\$ 3.34
Year ended December 31, 2009		
First Quarter	\$ 5.15	\$ 2.72
Second Quarter	\$ 4.98	\$ 3.51
Third Quarter	\$ 9.03	\$ 4.26
Fourth Quarter	\$ 8.09	\$ 5.04

 **Holders**

As of February 1, 2011, there were 81 holders of record of Sangamo's common stock. This number does not include street name or beneficial holders, whose shares are held of record by banks, brokers, financial institutions and other nominees.

**Dividends**

Sangamo has not paid dividends on its common stock, and currently does not plan to pay any cash dividends in the foreseeable future.

**Stock Trading Plans**

From time to time our directors, executive officers and other insiders, including Edward O. Lanphier II, President and CEO, have adopted stock trading plans pursuant to Rule 10b5-1 of the Securities Exchange Act of 1934, as amended, and made sales pursuant to such plans.

**Table of Contents**

**Stock Performance Graph**

*The above Stock Performance Graph and related information shall not be deemed soliciting material or to be filed with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the Company specifically incorporates it by reference into such filing.*

**Table of Contents****ITEM 6 SELECTED FINANCIAL DATA**

The following Selected Financial Data should be read in conjunction with Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8 Financial Statements and Supplementary Data included elsewhere in this Annual Report on Form 10-K.

**Selected Financial Data**

	2010	Year Ended December 31,			2006
		2009	2008	2007	
(In thousands, except per share data)					
<b>Statement of Operations Data:</b>					
Total revenues	\$ 20,805	\$ 22,187	\$ 16,186	\$ 9,098	\$ 7,885
Operating expenses:					
Research and development	33,154	28,984	31,229	25,559	21,527
General and administrative	12,586	12,605	10,332	8,310	7,087
Total operating expenses	45,740	41,589	41,561	33,869	28,614
Loss from operations	(24,935)	(19,402)	(25,375)	(24,771)	(20,729)
Interest income, net	81	547	2,231	3,217	2,411
Other (expense)/income		268	(1,158)	74	454
Net loss	\$ (24,854)	\$ (18,587)	\$ (24,302)	\$ (21,480)	\$ (17,864)
Basic and diluted net loss per common share	\$ (0.55)	\$ (0.44)	\$ (0.60)	\$ (0.58)	\$ (0.55)
Shares used in computing basic and diluted net loss per common share	45,167	42,048	40,825	37,355	32,502

	2010	2008	As of December 31,		2005
			2007	2006	
(In thousands)					
<b>Balance Sheet Data:</b>					
Cash, cash equivalents, marketable securities, and interest receivable	\$ 60,622	\$ 85,281	\$ 65,025	\$ 81,412	\$ 53,975
Working capital	54,222	70,116	54,221	72,437	49,856
Total assets	62,999	87,439	67,850	83,900	55,780
Accumulated deficit	(217,495)	(192,641)	(174,054)	(149,752)	(128,272)
Total stockholders' equity	55,907	71,782	55,396	72,122	48,705

**ITEM 7 MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

The discussion in Management's Discussion and Analysis of Financial Condition and Results of Operations contains trend analysis, estimates and other forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements include, without limitation, statements containing the words "believes," "anticipates," "expects," "continue," and other words of similar import or the negative of those terms or expressions. Such forward-looking statements are subject to known and unknown risks, uncertainties, estimates and other factors that may cause the actual results, performance or achievements of the Company, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Actual results could differ materially from those set forth in such forward-looking statements as a result of, but not limited to, the Risk Factors described in Part I, Item 1A. You should read the following discussion and analysis along with the Selected Financial Data and the financial statements and notes attached to those statements included elsewhere in this report.



---

## **Table of Contents**

### **Overview**

We were incorporated in June 1995. From our inception through December 31, 2010, our activities related primarily to establishing and operating a biotechnology research and development organization and developing relationships with our corporate collaborators. Our scientific and business development endeavors currently focus on the engineering of novel zinc finger DNA-binding proteins (ZFPs) for the regulation and modification of genes. We have incurred net losses since inception and expect to incur losses in the future as we continue our research and development activities. To date, we have funded our operations primarily through the issuance of equity securities, borrowings, payments from research grants and from corporate collaborators and strategic partners.

For the year ended December 31, 2010, we incurred a consolidated net loss of \$24.9 million, or \$0.55 per share, compared to a net loss of \$18.6 million, or \$0.44 per share, for the same period in 2009. As of December 31, 2010, we had cash, cash equivalents, marketable securities and interest receivable totaling \$60.6 million compared to \$85.3 million as of December 31, 2009. As of December 31, 2010, we had an accumulated deficit of \$217.5 million.

Our revenues have consisted primarily of revenues from our corporate partners for ZFP transcription factors (ZFP TFs) and ZFP nucleases (ZFNs), contractual payments from strategic partners for research programs and research milestones, and research grant funding. We expect revenues will continue to fluctuate from period to period and there can be no assurance that new collaborations or partner funding will continue beyond their initial terms.

In the development of our ZFP technology platform, we have continued to place more emphasis internally on higher-value ZFP Therapeutic product development and less on our non-therapeutic applications. We believe this shift in emphasis has the potential to increase the return on investment to our stockholders by allocating capital resources to higher value, therapeutic product development activities. At the same time, it may reduce our revenues over the next several years and subject us to higher financial risk by increasing expenses associated with product development. We have filed Investigational New Drug (IND) applications with the U.S. Food and Drug Administration (FDA) and have initiated several Phase 2 clinical trials and a Phase 2b clinical trial of a ZFP Therapeutic in subjects with diabetic neuropathy and one Phase 2 clinical trial in subjects with ALS. We are also conducting Phase 1 clinical trials to evaluate ZFP Therapeutics for the treatment of HIV/AIDS and glioblastoma, a type of brain cancer. Development of novel therapeutic products is costly and is subject to a lengthy and uncertain regulatory process by 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 the perception of the public.

Research and development expenses consist primarily of salaries and personnel related expenses, stock-based compensation expenses, laboratory supplies, pre-clinical and clinical studies, manufacturing expenses, allocated facilities expenses, subcontracted research expenses and expenses for trademark registration and technology licenses. Research and development costs incurred in connection with collaborator-funded activities are expensed as incurred. Costs to acquire technologies that are utilized in research and development that have no alternative future use are expensed as incurred. We believe that continued investment in research and development is critical to attaining our strategic objectives. We expect these expenses will increase as we focus on the development of ZFP Therapeutics. Additionally, in order to develop ZFP TFs and ZFNs as commercially viable therapeutics, we expect to expend additional resources for expertise in the manufacturing, regulatory affairs and clinical research aspects of biotherapeutic development.

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

## **Table of Contents**

### **Critical Accounting Estimates**

The accompanying discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements and the related disclosures, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts in our consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe the following policies to be the most critical to an understanding of our financial condition and results of operations because they require us to make estimates, assumptions and judgments about matters that are inherently uncertain.

### ***Revenue Recognition***

Revenue is generally recognized when the four basic criteria of revenue recognition are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the fee is fixed and determinable; and (4) collectibility is reasonably assured. Determination of criteria (3) and (4) is based on management's judgments regarding the nature of the fee charged for products or services delivered and the collectibility of those fees.

Since our inception, a substantial portion of our revenues has been generated from research and licensing agreements. Revenue under such agreements typically includes upfront signing or license fees, cost reimbursements, milestone payments and royalties on future licensee's product sales.

We recognize nonrefundable signing, license or non-exclusive option fees as revenue when rights to use the intellectual property related to the license have been delivered and over the term of the agreement if we have continuing performance obligations. We estimate the performance period at the inception of the arrangement and reevaluate it each reporting period. This reevaluation may shorten or lengthen the period over which the remaining revenue is recognized. Changes to these estimates are recorded on a prospective basis. We recognize milestone payments, which are subject to substantive contingencies, upon completion of specified milestones, which represents the culmination of an earnings process. Royalties are generally recognized as revenue upon the receipt of the related royalty payment. We recognize cost reimbursement revenue under collaborative agreements as the related research and development costs for services are rendered. Deferred revenue represents the portion of research or license payments received which have not been earned.

Our revenue arrangements with multiple elements are divided into separate units of accounting if certain criteria are met, including whether the delivered element has stand-alone value to the customer and whether there is objective and reliable evidence of the fair value of the undelivered items. The consideration we receive is allocated among the separate units based on their respective fair values and the applicable revenue recognition criteria are applied to each of the separate units.

### ***Research and Development Expenses***

We expense research and development expenses as incurred. Research and development expenses consist of direct and research-related allocated overhead costs such as facilities costs, salaries and related personnel costs, and material and supply costs. In addition, research and development expenses include costs related to clinical trials to validate our testing processes and procedures and related overhead expenses. Expenses resulting from clinical trials are recorded when incurred based in part on factors such as estimates of work performed, patient enrollment, progress of patient studies and other events. We make good faith estimates that we believe to be accurate, but the actual costs and timing of clinical trials are highly uncertain, subject to risks and may change depending upon a number of factors, including our clinical development plan.

**Table of Contents****Stock-Based Compensation**

We measure and recognize compensation expense for all share-based payment awards made to our employees and directors, including employee stock options and employee stock purchases related to the Employee Share Purchase Plan (ESPP), on estimated fair values, utilizing the modified prospective transition method. The fair value of equity-based awards is amortized over the vesting period of the award using a straight-line method.

To estimate the value of an award, we use the Black-Scholes option pricing model. This model requires inputs such as expected life, expected volatility and risk-free interest rate. These inputs are subjective and generally require significant analysis and judgment to develop. While estimates of expected life and volatility are derived primarily from our historical data, the risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant commensurate with the expected life assumption. We review our valuation assumptions quarterly and, as a result, it is likely we will change our valuation assumptions used to value share based awards granted in future periods. Further, we are required to estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. We use historical data to estimate pre-vesting option forfeitures and record stock-based compensation expense only for those awards that are expected to vest. If factors change and different assumptions are employed in determining the fair value of stock-based awards, the stock based compensation expense recorded in future periods may differ significantly from what was recorded in the current period.

**Results of Operations****Years Ended December 31, 2010, 2009 and 2008****Revenues**

	Year Ended December 31,							
	2010	2009	Change	% Change	2009	2008	Change	% Change
	(In thousands, except percentage values)							
<b>Revenues:</b>								
Collaboration agreements	\$ 16,819	\$ 21,553	\$ (4,734)	(22)%	\$ 21,553	\$ 14,492	\$ 7,061	49%
Research grants	3,986	634	3,352	529%	634	1,694	(1,060)	(63)%
Total revenues	\$ 20,805	\$ 22,187	\$ (1,382)	(6)%	\$ 22,187	\$ 16,186	\$ 6,001	37%

Total revenues consisted of revenues from collaboration agreements, strategic partnerships and research grants. We anticipate revenues over the next several years will primarily be derived from our research and commercial license agreements with Sigma-Aldrich Corporation (Sigma) and our research license and commercial option agreement with Dow AgroSciences LLC (DAS), a wholly owned subsidiary of Dow Chemical Corporation.

Revenues from our corporate collaboration and strategic partnering agreements were \$16.8 million in 2010, \$21.6 million in 2009 and \$14.5 million in 2008. The decrease in 2010 from 2009 was primarily due to decreased revenues of \$4.5 million in connection with our license agreement with DAS which was mainly due to a decrease in amortized revenues associated with the commercial option fee paid by DAS in June 2008. The increase in 2009 from 2008 was primarily attributable to increased revenues of \$7.8 million in connection with our license agreements with Sigma and increased revenues of \$1.4 million in connection with our agreement with DAS, partially offset by decreased revenues of \$2.7 million in connection with our research and commercial license agreements with Pfizer Inc.

Research grant revenues were \$4.0 million in 2010, \$634,000 in 2009 and \$1.7 million in 2008. The increase in 2010 from 2009 was primarily due to increased revenues associated with several existing and new



**Table of Contents**

research grants. In 2010, revenue associated with our grant with the Juvenile Diabetes Research Foundation International (JDRF) increased \$1.0 million due to progress on our Phase 2b clinical trial for DN. Revenue associated with our grant with the Michael J. Fox Foundation for Parkinson's Research (MJFF) increased \$445,000 due to renewed funding from MJFF to support further studies of ZFP TF activators of GDNF. Additionally, in 2010, we began recognition of revenues associated with a grant from the California Institute of Regenerative Medicine (CIRM). CIRM revenues were \$989,000 in 2010. Lastly, in October 2010, we were awarded and recognized \$978,000 for four qualifying therapeutic discovery projects under the Patient Protection and Affordable Care Act. The decrease in 2009 from 2008 was primarily attributable to decreased revenues of \$500,000 related to our grant with JDRF and decreased revenues of \$553,000 related to our grant with MJFF.

**Operating Expenses**

	Year Ended December 31,							
	2010	2009	Change	% Change	2009	2008	Change	% Change
	(In thousands, except percentage values)							
Operating expenses:								
Research and development	\$ 33,154	\$ 28,984	\$ 4,170	14%	\$ 28,984	\$ 31,229	\$ (2,245)	(7)%
General and administrative	12,586	12,605	(19)	0%	12,605	10,332	2,273	22%
Total operating expenses	\$ 45,740	\$ 41,589	\$ 4,151	10%	\$ 41,589	\$ 41,561	\$ 28	0%

**Research and Development Expenses**

Research and development expenses consist primarily of salaries and personnel related expenses, including stock-based compensation, laboratory supplies, pre-clinical and clinical studies, manufacturing expenses, allocated facilities expenses, subcontracted research expenses and expenses for trademark registration and technology licenses. We expect to continue to devote substantial resources to research and development in the future and expect research and development expenses to increase in the next several years if we are successful in advancing our ZFP Therapeutic product candidates into clinical trials. To the extent we collaborate with others with respect to clinical trials, increases in research and development expenses may be reduced or avoided.

Research and development expenses were \$33.2 million in 2010, compared to \$29.0 million in 2009 and \$31.2 million in 2008. The increase of \$4.2 million in 2010 from 2009 was primarily due to increased clinical expenses related to DN, specifically our Phase 2b study. The decrease of \$2.2 million in 2009 from 2008 was primarily due to decreased pre-clinical studies expenses of \$2.6 million, primarily related to our HIV / AIDS and glioblastoma programs, and related decreases in consulting expenses of \$662,000 and laboratory supplies expenses of \$542,000. The decrease was partially offset by increased expenses related to salaries and personnel of \$1.8 million, including increased stock-based compensation expenses of \$1.4 million. The increase in stock-based compensation expenses was primarily due to a true-up of actual versus previously estimated forfeitures of stock option grants.

Our current research and development programs are focused on the advancement of our ZFP TF technology for several potential applications. Among these are ZFP Therapeutics for neurological disorders, HIV/AIDS, cancer and monogenic diseases, ZFP-engineered cell lines for protein production and generation of transgenic animals, and ZFP TFs and ZFNs for applications in agricultural biotechnology.

**Table of Contents**

Below is a summary of our programs partially funded by collaborators and the development phase of the leading application:

Program	Collaborator	Stage
ZFP technology for high value laboratory research reagents including ZFN-engineered cell lines for the manufacture of protein pharmaceuticals and generation of transgenic animals		
	Sigma-Aldrich Corporation	Research/Marketing
ZFP technology to modify the genomes or alter the protein expression of plant cells, plants, or plant cell cultures	Dow AgroSciences	Research/Marketing

Below is a summary of our programs funded internally and the development stage of the leading application:

Program	Stage
ZFP Therapeutics	Research/Preclinical/Clinical
Drug development is inherently uncertain and the successful completion of our development programs is subject to numerous technological challenges and risks and we cannot presently estimate anticipated completion dates for any of our programs. Material cash inflows associated with the sale of products, if any, which result from our research efforts are not expected for at least five years. See Risk Factors <i>Our potential therapeutic products are subject to a lengthy and uncertain regulatory process, and if these potential products are not approved, we will not be able to commercialize these products and Our gene regulation and gene modification technology is relatively new, and if we are unable to use this technology in all our intended applications, it would limit our revenue opportunities.</i>	

Prior to January 1, 2008, due to the early stage of our various internal research and development programs, we did not track associated expenses on a program-by-program basis. Since January 1, 2008, management has categorized research and development expenses by program. The table below shows research and development expenses for our two primary clinical development programs, SB-509 and SB-728-T, as well as expenses associated with all other projects in our research and development pipeline. Other projects consist primarily of numerous pre-clinical research projects and activity associated with various research collaborations.

Programs	Year Ended December 31, (In thousands)		
	2010	2009	2008
SB-509	\$ 12,904	\$ 9,677	\$ 13,202
SB-728-T	7,079	4,705	3,985
Other research and development projects	13,171	14,602	14,042
Total research and development expenses	\$ 33,154	\$ 28,984	\$ 31,229

**General and Administrative Expenses**

General and administrative expenses consist primarily of salaries and personnel related expenses for executive, finance and administrative personnel, including stock-based compensation, professional services expenses, allocated facilities expenses, patent prosecution expenses and other general corporate expenses.

General and administrative expenses were \$12.6 million in 2010, \$12.6 million in 2009 and \$10.3 million in 2008. There were no significant changes in general and administrative expenses in 2010 from 2009. The increase of \$2.3 million in 2009 from 2008 was primarily due to personnel related expenses of \$1.8 million, including



**Table of Contents**

increased stock-based compensation of \$1.3 million, as well as increased professional services expenses of \$347,000. The increase in stock-based compensation expenses was primarily due to a true-up of actual versus previously estimated forfeitures of stock option grants.

**Interest income, net**

	Year Ended December 31,							
	2010	2009	Change	Change %	2009	2008	Change	Change %
	(In thousands, except percentage values)							
Interest income, net	\$ 81	\$ 547	\$ (466)	(85)%	\$ 547	\$ 2,231	\$ (1,684)	(75)%

Interest income, net, was \$81,000 in 2010, compared to \$547,000 in 2009 and \$2.2 million in 2008. The decrease in 2010 from 2009 was due to lower investment yields and lower average investment balances. The decrease in 2009 from 2008 was primarily due to lower investment yields.

**Other income/(expense)**

	Year Ended December 31,							
	2010	2009	Change	Change %	2008	2007	Change	Change %
	(In thousands, except percentage values)							
Other income/(expense)	\$	\$ 268	\$ (268)	(100)%	\$ 268	\$ (1,158)	\$ 1,426	1,231%

Other income/(expense) is primarily comprised of foreign currency remeasurement gains and losses related to the cash balance held by our wholly-owned UK subsidiary, Gendaq Limited. The cash balance was transferred to Sangamo's U.S. investment account in the third quarter of 2009; accordingly, there were no foreign currency remeasurement gains or losses during 2010. The income in 2009 compared to the expense in 2008 was due to fluctuations in the value of the British pound relative to the U.S. dollar.

**Liquidity and Capital Resources****Liquidity**

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

As of December 31, 2010, we had cash, cash equivalents, marketable securities and interest receivable totaling \$60.6 million compared to \$85.3 million as of December 31, 2009. The decrease was primarily attributable to capital required to fund our continuing operations, including the advancement of our ZFP Therapeutic programs. Our most significant use of capital pertains to salaries and benefits for our employees and external development expenses, such as manufacturing and clinical trial activity, related to our ZFP Therapeutic programs. Our cash and investment balances are held in a variety of interest bearing instruments, including obligations of U.S. government agencies, U.S. treasury debt securities, corporate debt securities and money market funds. Cash in excess of immediate requirements is invested in accordance with our investment policy with a view toward capital preservation and liquidity.

**Cash Flow**

Net cash used in operating activities was \$23.9 million in 2010, \$6.1 million in 2009 and \$17.3 million in 2008. For all periods, net cash used in operating activities primarily reflects our net operating losses. The increase in net cash used in operating activities in 2010 compared to 2009 was primarily the result of increased research and development expenses associated with our clinical operations and deferred revenues under our

## **Table of Contents**

\$15.0 million license agreement with Sigma, which was received in full in October 2009 but which was recognized through July 2010. The decrease in net cash used in operating activities in 2009 compared to 2008 was primarily the result of increased revenues association with our collaboration agreements.

Net cash provided by investing activities was \$12.4 million in 2010. Net cash used in investing activities was \$19.2 million in 2009. Net cash provided by investing activities was \$23.8 million in 2008. Cash flows from investing activities for all periods primarily related to purchases and maturities of investments.

Net cash provided by financing activities was \$1.2 million in 2010, \$26.8 million in 2009 and \$1.8 million in 2008. Net cash provided by financing activities in 2010 and 2008 primarily related to proceeds from the issuance of common stock upon exercise of stock options. In 2009, in addition to proceeds from the issuance of common stock upon exercise of stock options, we generated cash flows related to issuance of common stock in connection with an expanded license agreement with Sigma and an underwritten public offering. In October 2009, pursuant to the expanded license agreement with Sigma, Sangamo issued 636,000 shares of common stock valued at \$7.73 per share to Sigma, resulting in proceeds of \$4.9 million. Additionally, in October 2009, we completed an underwritten public offering of common stock, in which we sold an aggregate of 3,000,000 shares of common stock at a public offering price of \$7.20 per share, resulting in net proceeds of approximately \$20.9 million.

### *Operating Capital and Capital Expenditure Requirements*

We anticipate continuing to incur operating losses for at least the next several years. While we expect our rate of cash usage to increase in the future, in particular to support our product development endeavors, we believe that the available cash resources as well as funds received from corporate collaborators, strategic partners and research grants will enable us to maintain our currently planned operations through 2012. Future capital requirements will be substantial and if our capital resources are insufficient to meet future capital requirements, we will need to raise additional capital to fund our operations, including ZFP Therapeutic development activities through equity or debt financing. Additional capital may not be available on terms acceptable to us, or at all. If adequate funds are not available, or if the terms of potential funding sources are unfavorable, our business and our ability to develop our technology and our ZFP Therapeutic products would be harmed. Furthermore, any sales of additional equity securities may result in dilutions to our stockholders.

Our future capital requirements will depend on many forward looking factors, including the following:

the initiation, progress, timing and completion of clinical trials for our product candidates and potential product candidates;

the outcome, timing and cost of regulatory approvals;

delays that may be caused by changing regulatory requirements;

the number of product candidates that we pursue;

the costs involved in filing and prosecuting patent applications and enforcing and defending patent claims;

the timing and terms of future in-licensing and out-licensing transactions;

the cost and timing of establishing sales, marketing, manufacturing and distribution capabilities;

## Edgar Filing: SANGAMO BIOSCIENCES INC - Form 10-K

the cost of procuring clinical and commercial supplies of our product candidates;

the extent to which we acquire or invest in businesses, products or technologies; and

the possible costs of litigation.

There is no provision for income taxes because we have only incurred losses since the inception of the Company. As of December 31, 2010, Sangamo had net operating loss carryforwards for federal and state income tax purposes of approximately \$142.8 million and \$131.9 million, respectively. If not utilized, the net federal and

**Table of Contents**

state operating loss carryforwards will begin to expire in 2011 and 2012, respectively. The Company also has federal and state research tax credit carryforwards of \$3.6 million and \$3.8 million, respectively. The federal research credits will begin to expire in 2018 while the state research credits have no expiration date. Utilization of the Company's net operating loss carryforwards and research tax credit carryforwards may be subject to substantial annual limitations due to the ownership change limitations provided by the Internal Revenue Code and similar state provisions. The annual limitation could result in the expiration of the net operating loss carryforwards and research tax credit carryforwards before use.

**Contractual Obligations and Commercial Commitments**

As of December 31, 2010 we had contractual obligations and commercial commitments as follows (in thousands):

Contractual Obligations	Total	Payments Due by Period			
		Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Operating leases	\$ 2,218	\$ 585	\$ 1,216	\$ 417	
License obligations	3,275	370	660	575	1,670
<b>Total contractual obligations</b>	<b>\$ 5,493</b>	<b>\$ 955</b>	<b>\$ 1,876</b>	<b>\$ 992</b>	<b>\$ 1,670</b>

Operating leases consist of base rents for facilities we occupy in Richmond, California. License obligations consist of ongoing license maintenance fees associated with cancelable in-license patent agreements.

**Recent Accounting Pronouncement**

In October 2009, the Financial Accounting Standards Board (FASB) issued updated revenue recognition standards for arrangements with multiple elements. The revised guidance provides for two significant changes to the existing multiple-element arrangements guidance. The first relates to the determination of when the individual deliverables included in a multiple-element arrangement may be treated as separate units of accounting. This change is significant as it will likely result in the requirement to separate more deliverables within an arrangement, ultimately leading to less revenue deferral. The second change modifies the manner in which the transaction consideration is allocated across the separately identifiable deliverables. These changes are likely to result in earlier recognition of revenue for multiple-element arrangements than under previous guidance. These new standards are effective for annual periods ending after June 15, 2010 and are effective for us beginning in the first quarter of fiscal 2011; however, early adoption is permitted. We believe the new standards will impact new or modified arrangements and may likely result in less revenue deferral.

**ITEM 7A QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

Our exposure to market risk relates to our cash, cash equivalents and investments, which have maturities not to exceed one year. The goals of our investment policy are preservation of capital, fulfillment of liquidity needs and capturing a market rate of return based on our investment policy parameters and market conditions. We select investments that maximize interest income to the extent possible within these guidelines. To achieve our goals, we maintain a portfolio of cash equivalents and investments in securities of high credit quality and with varying maturities to match projected cash needs.

The securities in our investment portfolio are not leveraged, are classified as available for sale and are, due to their short-term nature, subject to minimal interest rate risk. Our investments currently consist of U.S. Treasury securities, U.S. government-sponsored enterprise securities and corporate notes. Our investment policy, approved by our Board of Directors, limits the amount we may invest in any one type of investment issuer, thereby reducing credit risk concentrations. All investments have a fixed interest rate and are carried at market value, which approximates cost. We do not use derivative financial instruments in our investment portfolio.

**Table of Contents**

**ITEM 8 FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

**SANGAMO BIOSCIENCES, INC.**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

	<b>Page</b>
<u>Report of Independent Registered Public Accounting Firm</u>	56
<u>Consolidated Balance Sheets</u>	57
<u>Consolidated Statements of Operations</u>	58
<u>Consolidated Statements of Stockholders' Equity</u>	59
<u>Consolidated Statements of Cash Flows</u>	60
<u>Notes to Consolidated Financial Statements</u>	61



**Table of Contents**

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Stockholders

Sangamo BioSciences, Inc.

We have audited the accompanying consolidated balance sheets of Sangamo BioSciences, Inc. as of December 31, 2010 and 2009, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2010. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Sangamo BioSciences, Inc. as of December 31, 2010 and 2009, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2010, in conformity with U.S. generally accepted accounting principles.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the effectiveness of Sangamo BioSciences Inc.'s internal control over financial reporting as of December 31, 2010, based on the criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 16, 2011 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Palo Alto, California

February 16, 2011

**Table of Contents****SANGAMO BIOSCIENCES, INC.****CONSOLIDATED BALANCE SHEETS**

	December 31,	
	2010	2009
	(In thousands, except share and per share amounts)	
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 10,784	\$ 21,159
Marketable securities	49,501	63,781
Interest receivable	337	341
Accounts receivable	366	69
Prepaid expenses	326	423
Total current assets	61,314	85,773
Property and equipment, net	1,673	1,654
Other assets	12	12
Total assets	\$ 62,999	\$ 87,439
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 5,654	\$ 2,458
Accrued compensation and employee benefits	1,357	1,385
Deferred revenue	81	11,814
Total current liabilities	7,092	15,657
Commitments and contingencies		
Stockholders' equity:		
Common stock, \$0.01 par value; 80,000,000 shares authorized, 45,377,739 and 44,994,409 shares issued and outstanding at December 31, 2010 and 2009, respectively	454	450
Additional paid-in capital	272,954	263,955
Accumulated deficit	(217,495)	(192,641)
Accumulated other comprehensive (loss) / income	(6)	18
Total stockholders' equity	55,907	71,782
Total liabilities and stockholders' equity	\$ 62,999	\$ 87,439

See accompanying Notes to Consolidated Financial Statements.

**Table of Contents****SANGAMO BIOSCIENCES, INC.****CONSOLIDATED STATEMENTS OF OPERATIONS**

	2010	Year Ended December 31, 2009	2008
	(In thousands, except per share amounts)		
<b>Revenues:</b>			
Collaboration agreements	\$ 16,819	\$ 21,553	\$ 14,492
Research grants	3,986	634	1,694
<b>Total revenues</b>	<b>20,805</b>	<b>22,187</b>	<b>16,186</b>
<b>Operating expenses:</b>			
Research and development	33,154	28,984	31,229
General and administrative	12,586	12,605	10,332
<b>Total operating expenses</b>	<b>45,740</b>	<b>41,589</b>	<b>41,561</b>
<b>Loss from operations</b>	<b>(24,935)</b>	<b>(19,402)</b>	<b>(25,375)</b>
Interest income, net	81	547	2,231
Other income/(expense)		268	(1,158)
<b>Net loss</b>	<b>\$ (24,854)</b>	<b>\$ (18,587)</b>	<b>\$ (24,302)</b>
<b>Basic and diluted net loss per share</b>	<b>\$ (0.55)</b>	<b>\$ (0.44)</b>	<b>\$ (0.60)</b>
Shares used in computing basic and diluted net loss per share	45,167	42,048	40,825

See accompanying Notes to Consolidated Financial Statements.

**Table of Contents****SANGAMO BIOSCIENCES, INC.****CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY**

	Common Stock		Additional Paid-in Capital (In thousands, except share data)	Accumulated Deficit (In thousands, except share data)	Accumulated Other Comprehensive Income (Loss)	Total Stockholders Equity
	Shares	Amount				
Balances at December 31, 2007	40,315,368	403	221,176	(149,752)	295	72,122
Issuance of common stock upon exercise of stock options and in connection with restricted stock units	639,326	6	1,211			1,217
Issuance of common stock under employee stock purchase plan	102,383	1	629			630
Stock-based compensation			5,748			5,748
Comprehensive loss:						
Increase in unrealized gain on marketable securities					79	79
Other changes in Other Comprehensive Loss					(98)	(98)
Net loss				(24,302)		(24,302)
Comprehensive loss						(24,321)
Balances at December 31, 2008	41,057,077	\$ 410	\$ 228,764	\$ (174,054)	\$ 276	\$ 55,396
Issuance of common stock in connection with underwritten public offering	3,000,000	30	20,830			20,860
Issuance of common stock in connection with license agreement	636,133	6	4,911			4,917
Issuance of common stock upon exercise of stock options and in connection with restricted stock units	160,159	2	486			488
Issuance of common stock under employee stock purchase plan	141,040	2	497			499
Stock-based compensation			8,467			8,467
Comprehensive loss:						
Decrease in unrealized gain on marketable securities					(258)	(258)
Net loss				(18,587)		(18,587)
Comprehensive loss						(18,845)
Balances at December 31, 2009	44,994,409	\$ 450	\$ 263,955	\$ (192,641)	\$ 18	\$ 71,782
Issuance of common stock upon exercise of stock options and in connection with restricted stock units	249,156	2	736			738
Issuance of common stock under employee stock purchase plan	134,174	2	445			447
Stock-based compensation			7,818			7,818
Comprehensive loss:						
Decrease in unrealized gain on marketable securities					(24)	(24)
Net loss				(24,854)		(24,854)

Edgar Filing: SANGAMO BIOSCIENCES INC - Form 10-K

Comprehensive loss								(24,878)
Balances at December 31, 2010	45,377,739	\$ 454	\$ 272,954	\$ (217,495)	\$	(6)	\$	55,907

See accompanying Notes to Consolidated Financial Statements.

**Table of Contents****SANGAMO BIOSCIENCES, INC.****CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Year Ended December 31,		
	2010	2009	2008
	(In thousands)		
<b>Operating activities:</b>			
Net loss	\$ (24,854)	\$ (18,587)	\$ (24,302)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	676	572	523
Amortization of premium / discount on marketable securities	1,187	288	(1,059)
Stock-based compensation	7,818	8,467	5,748
Other changes in other comprehensive loss			(98)
Net loss on disposal of property and equipment		34	
Other		(302)	1,158
Net changes in operating assets and liabilities:			
Interest receivable	4	(147)	130
Accounts receivable	(297)	431	(291)
Prepaid expenses and other assets	97	(96)	170
Accounts payable and accrued liabilities	3,196	(1,390)	310
Accrued compensation and employee benefits	(28)	997	(811)
Deferred revenue	(11,733)	3,596	1,177
Net cash used in operating activities	(23,934)	(6,137)	(17,345)
<b>Investing activities:</b>			
Purchases of marketable securities	(100,027)	(79,406)	(82,485)
Maturities of marketable securities	113,096	60,500	101,375
Proceeds from sales of marketable securities			5,639
Purchases of property and equipment	(695)	(272)	(739)
Net cash provided by / (used in) investing activities	12,374	(19,178)	23,790
<b>Financing activities:</b>			
Proceeds from issuance of common stock	1,185	21,846	1,847
Issuance of common stock in connection with license agreements		4,917	
Net cash provided by financing activities	1,185	26,763	1,847
Effect of exchange rate changes on cash		302	(1,158)
Net increase / (decrease) in cash and cash equivalents	(10,375)	1,750	7,134
Cash and cash equivalents, beginning of period	21,159	19,409	12,275
Cash and cash equivalents, end of period	\$ 10,784	\$ 21,159	\$ 19,409

See accompanying Notes to Consolidated Financial Statements.

**Table of Contents**

**SANGAMO BIOSCIENCES, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**NOTE 1 ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

***Sangamo***

Sangamo BioSciences, Inc. (Sangamo, we or the Company) was incorporated in the State of Delaware on June 22, 1995 and is focused on the development and commercialization of novel transcription factors for gene regulation and gene modification. Sangamo's gene regulation and gene modification technology platform is enabled by the engineering of a class of transcription factors known as zinc finger DNA-binding proteins (ZFPs). Potential applications of Sangamo's technology include development of human therapeutics, plant agriculture and enhancement of pharmaceutical protein production. Sangamo will require additional financial resources to complete the development and commercialization of its products including ZFP Therapeutics.

Sangamo is currently working on a number of long-term development projects that will involve experimental and unproven technology. The projects may require several years and substantial expenditures to complete and ultimately may be unsuccessful. We plan to finance operations with available cash resources, funds received under research grants and collaborations and strategic partnerships, and from the issuance of equity or debt securities. Sangamo believes that its available cash, cash equivalents and investments as of December 31, 2010, along with expected revenues collaborations and strategic partnerships, will be adequate to fund its operations through 2012. Sangamo will need to raise substantial additional capital to fund subsequent operations and complete the development and commercialization of its products either through significant corporate partnerships, research grants or issuance of equity securities. Sangamo may seek to raise additional capital when conditions permit; however, there is no assurance funding will be available on favorable terms, if at all.

***Basis of Presentation***

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and the accompanying notes. Actual results could differ from those estimates. The consolidated financial statements include the accounts of Sangamo and its wholly owned subsidiary, Gendaq Limited, after elimination of all intercompany balances and transactions.

The carrying amounts for financial instruments consisting of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate fair value due to their short maturities. Marketable securities are stated at their estimated fair values, based on quoted market prices for the same or similar instruments. The counterparties to the agreements relating to the Company's investment securities consist of various major corporations, governmental agencies and financial institutions with high credit standing.

***Cash and Cash Equivalents***

Sangamo considers all highly liquid investments purchased with original maturities of three months or less at the purchase date to be cash equivalents. Cash and cash equivalents consist of deposits in money market investment accounts, government sponsored entity debt securities, US Treasury debt securities and corporate bank accounts.

***Marketable Securities***

Sangamo classifies its marketable securities as available-for-sale and records its investments at fair value. Available-for-sale securities are carried at estimated fair value based on quoted market prices, with the unrealized holding gains and losses included in accumulated other comprehensive income.

## **Table of Contents**

The Company's investments are subject to a periodic impairment review. The Company recognizes an impairment charge when a decline in the fair value of its investments below the cost basis is judged to be other-than-temporary. The Company considers various factors in determining whether to recognize an impairment charge, including the length of time and extent to which the fair value has been less than the Company's cost basis, the financial condition and near-term prospects of the investee, and the Company's intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in the market value. During the years ended December 31, 2010, 2009 and 2008 the Company did not record any other-than-temporary impairment charges on its investments. Realized gains and losses on available-for-sale securities are included in other (expense)/income, which is determined using the specific identification method.

### ***Fair Value Measurement***

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

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

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

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

### ***Property and Equipment***

Property and equipment are stated at cost, less accumulated depreciation and amortization. Depreciation is calculated using the straight-line method based on the estimated useful lives of the related assets (generally three to five years). For leasehold improvements, amortization is calculated using the straight-line method based on the shorter of the useful life or the lease term.

### ***Impairment of Long-Lived Assets***

The Company's policy regarding long-lived assets is to evaluate the recoverability of its assets when the facts and circumstances suggest that the assets may be impaired. This assessment of fair value is based on the estimated undiscounted cash flows compared to the carrying value of the assets. If the future cash flows (undiscounted and without interest charges) are less than the carrying value, a write-down would be recorded to reduce the related asset to its estimated fair value. The Company did not incur impairment losses in the periods presented.

### ***Foreign Currency Translation***

The functional currency of the Company's foreign subsidiary, Gendaq Limited, is the U.S. dollar. Monetary assets and liabilities which are denominated in foreign currency are remeasured at the exchange rates in effect at the balance sheet date. Nonmonetary assets and liabilities, if any, are remeasured at the historical exchange rates. Income and expenses are remeasured using the average exchange rate for the period. Gains and losses from remeasurement of the foreign subsidiary's financial statements are recorded as other income / (expense). During the third quarter of 2009, the cash balance held at Gendaq was transferred to Sangamo's U.S. investment account, eliminating foreign currency remeasurement gains and losses.

In 2010, we did not record foreign currency remeasurement gains or losses. In 2009, we recorded a foreign currency remeasurement gain of \$302,000. In 2008, we recorded a foreign currency remeasurement loss of \$1.2 million.



## **Table of Contents**

### ***Comprehensive Loss***

Comprehensive loss is comprised of net loss and other comprehensive income (loss) which primarily consist of unrealized gains / (losses) on marketable securities. Comprehensive loss for the years ended December 31, 2010, 2009 and 2008 is included in the statement of stockholders equity.

### ***Revenue Recognition***

Revenue from research activities made under strategic partnering agreements and collaborations is recognized as the services are provided when there is persuasive evidence that an arrangement exists, delivery has occurred, the price is fixed or determinable, and collectability is reasonably assured. Revenue arrangements that include multiple deliverables are divided into separate units of accounting if the deliverables meet certain criteria, including whether the fair value of the delivered items can be determined and whether there is evidence of fair value of the undelivered items. In addition, the consideration is allocated among the separate units of accounting based on their fair values, and the applicable revenue recognition criteria are considered separately for each of the separate units of accounting.

Revenue generated from research and licensing agreements typically includes upfront signing or license fees, cost reimbursements, minimum sublicense fees, milestone payments and royalties on future licensee's product sales. We recognize nonrefundable signing, license or non-exclusive option fees as revenue when rights to use the intellectual property related to the license have been delivered and over the period of performance obligations if we have continuing performance obligations. We estimate the performance period at the inception of the arrangement and reevaluate it each reporting period. This reevaluation may shorten or lengthen the period over which the remaining revenue is recognized. Changes to these estimates are recorded on a prospective basis. We recognize milestone payments, which are subject to substantive contingencies, upon completion of specified milestones, which represents the culmination of an earnings process, according to contract terms. Fees from licensees upon sublicensing Sangamo technologies by them to third parties (sublicense fees) are recognized as revenue in the period such fees are due. Minimum annual sublicense fees are also recognized as revenue in the period in which such fees are due. Royalties are generally recognized as revenue upon the receipt of the related royalty payment. We recognize cost reimbursement revenue under collaborative agreements as the related research and development costs for services are rendered. Deferred revenue represents the portion of research or license payments received which have not been earned.

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

During 2010, revenues related to Sigma and DAS represented 59% and 21%, respectively, of total revenues. During 2009, revenues related to Sigma and DAS represented 50% and 40%, respectively, of total revenues. During 2008, revenues related to DAS, Sigma and Pfizer represented 46%, 20%, and 19%, respectively, of total revenues.

### ***Research and Development Expenses***

Research and development expenses consist of costs incurred for Company-sponsored as well as collaborative research and development activities. These costs include direct and research-related overhead expenses, which include salaries and other personnel related expenses, stock-based compensation, pre-clinical and clinical studies, facility costs, laboratory supplies and depreciation of facilities and laboratory equipment, as well as the cost of funding research at universities and other research institutions, and are expensed as incurred. Costs to acquire technologies that are utilized in research and development and that have no alternative future use are expensed as incurred.

## **Table of Contents**

### ***Stock-Based Compensation***

We measure and recognize compensation expense for all share-based payment awards made to Sangamo employees and directors, including employee share options and employee share purchases related to the Employee Share Purchase Plan (ESPP), based on estimated fair values at grant date, utilizing the modified prospective transition method. The fair value of equity-based awards is amortized over the vesting period of the award using a straight-line method.

To estimate the value of an award, we use the Black-Scholes option pricing model. This model requires inputs such as expected life, expected volatility and risk-free interest rate. These inputs are subjective and generally require significant analysis and judgment to develop. While estimates of expected life and volatility are derived primarily from the Company's historical data, the risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant commensurate with the expected life assumption. Further, we are required to estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. We use historical data to estimate pre-vesting option forfeitures and record stock-based compensation expense only for those awards that are expected to vest.

### ***Income Taxes***

Income tax expense has been provided using the liability method. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities as measured by the enacted tax rates that will be in effect when these differences reverse. The Company provides a valuation allowance against net deferred tax assets if, based upon the available evidence, it is not more likely than not that the deferred tax assets will be realized.

### ***Net Loss Per Share***

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

Because Sangamo is in a net loss position, diluted net loss per share excludes the effects of common stock equivalents consisting of options, which are all anti-dilutive. Had Sangamo been in a net income position, diluted earnings per share would have included the shares used in the computation of basic net loss per share as well as an additional 2,499,984, 1,901,235 and 1,303,087 shares for 2010, 2009 and 2008, respectively, related to outstanding options.

### ***Segments***

The Company operates in one segment. Management uses one measurement of profitability and does not segregate its business for internal reporting. As of December 31, 2010 and 2009, 100% of all long-lived assets were maintained in the U.S. For the years ended December 31, 2010, 2009 and 2008, 100% of revenues and operating expenses were generated and incurred in the U.S.

**Table of Contents****NOTE 2 INVESTMENTS AND FAIR VALUE MEASUREMENT**

The table below summarizes the Company's available-for-sale securities (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized (Losses)	Estimated Fair Value
<b>December 31, 2010</b>				
Cash equivalents:				
Money market funds	\$ 9,390			\$ 9,390
Total	9,390			9,390
Marketable securities:				
U.S. government sponsored entity debt securities	42,141		(6)	42,135
U.S. treasury debt securities	4,806	1		4,807
Corporate debt securities	2,560		(1)	2,559
Total	49,507	1	(7)	49,501
Total cash equivalents and marketable securities	\$ 58,897	\$ 1	\$ (7)	\$ 58,891
<b>December 31, 2009</b>				
Cash equivalents:				
Money market funds	\$ 12,281	\$	\$	\$ 12,281
U.S. government sponsored entity debt securities	7,932		(1)	7,931
Total	20,213		(1)	20,212
Marketable securities:				
U.S. government sponsored entity debt securities	49,103	21	(5)	49,119
U.S. treasury debt securities	14,661	2	(1)	14,662
Total	63,764	23	(6)	63,781
Total cash equivalents and marketable securities	\$ 83,977	\$ 23	\$ (7)	\$ 83,993

As of December 31, 2010, all of our investments had maturity dates within one year, there were no material unrealized losses and we had no realized losses for the year ended December 31, 2010; therefore, we had no other-than-temporary impairments of our available-for-sale securities as of December 31, 2010.

**Fair Value Measurement**

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

	December 31, 2010 Fair Value Measurements			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash equivalents:				

Edgar Filing: SANGAMO BIOSCIENCES INC - Form 10-K

Money market funds	\$ 9,390	\$ 9,390	\$	\$
Total	9,390	9,390		
Marketable securities:				
U.S. government sponsored entity debt securities	42,135		42,135	
U.S. treasury debt securities	4,807		4,807	
Corporate debt securities	2,559		2,559	
Total	49,501		49,501	
Total cash equivalents and marketable securities	\$ 58,891	\$ 9,390	\$ 49,501	\$

**Table of Contents**

	Total	December 31, 2009 Fair Value Measurements		
		Level 1	Level 2	Level 3
<b>Assets:</b>				
Cash equivalents:				
Money market funds	\$ 12,281	\$ 12,281	\$	\$
U.S. government sponsored entity debt securities	7,931		7,931	
<b>Total</b>	<b>20,212</b>	<b>12,281</b>	<b>7,931</b>	
Marketable securities:				
U.S. government sponsored entity debt securities	49,119		49,119	
U.S. treasury debt securities	14,662		14,662	
<b>Total</b>	<b>63,781</b>		<b>63,781</b>	
Total cash equivalents and marketable securities	\$ 83,993	\$ 12,281	\$ 71,712	\$

**NOTE 3 STOCK-BASED COMPENSATION**

The following table shows total stock-based compensation expense recognized in the consolidated statements of operations (in thousands):

	Year Ended December 31,		
	2010	2009	2008
Research and development	\$ 3,612	\$ 4,115	\$ 2,718
General and administrative	4,206	4,352	3,030
<b>Total stock-based compensation expense</b>	<b>\$ 7,818</b>	<b>\$ 8,467</b>	<b>\$ 5,748</b>

As of December 31, 2010, total compensation cost related to nonvested stock options to be recognized in future periods was \$11.0 million, which is expected to be expensed over a weighted-average period of 2.73 years. As of December 31, 2010, total compensation cost related to nonvested restricted stock units to be recognized in future periods was \$368,000, which is expected to be expensed over a weighted-average period of 1.00 year. There was no capitalized stock-based employee compensation cost as of December 31, 2010.

**Valuation Assumptions**

The employee stock-based compensation expense was determined using the Black Scholes option valuation model. Option valuation models require the input of subjective assumptions and these assumptions can vary over time.

The Company primarily bases its determination of expected volatility through its assessment of the historical volatility of its common stock. The Company relied on its historical exercise and post-vested termination activity for estimating its expected term for use in determining the fair value of these options.

The weighted average assumptions used for estimating the fair value of the employee stock options are as follows:

	Year Ended December 31,		
	2010	2009	2008
Risk-free interest rate	1.5-2.6%	2.0-2.2%	2.4-3.3%
Expected life of option	5.23-5.41 yrs	5.31-5.38 yrs	5.10-5.20 yrs
Expected dividend yield of stock	0%	0%	0%
Expected volatility	0.83-0.84	0.83	0.61-0.83



**Table of Contents**

The weighted average assumptions used for estimating the fair value of the employees' stock purchase rights are as follows:

	Year Ended December 31,		
	2010	2009	2008
Risk-free interest rate	0.2-1.0%	0.2-0.9%	1.1-5.1%
Expected life of option	0.5-2.0 yrs	0.5-2.0 yrs	0.5-2.0 yrs
Expected dividend yield of stock	0%	0%	0%
Expected volatility	0.62-1.14	0.63-1.97	0.51-0.73

**NOTE 4 MAJOR CUSTOMERS, PARTNERSHIPS AND STRATEGIC ALLIANCES****Collaboration Agreements*****Agreement with Sigma-Aldrich Corporation in Laboratory Research Reagents, Transgenic Animal and Commercial Protein Production Cell-line Engineering***

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

Under the terms of the agreement, Sigma made an initial payment comprising an upfront license fee and the purchase of 1.0 million shares of Sangamo's common stock under a separate stock purchase agreement, resulting in a total upfront payment to Sangamo of \$13.5 million, which consisted of an equity investment by Sigma in Sangamo common stock valued at \$8.55 million, a \$3.95 million license fee, and \$1.0 million of research funding. Under the license agreement, we received research funding and development milestone payments and may receive commercial milestone payments based on net sales of up to \$17.0 million, subject to the continuation of the agreement. During the term of the license agreement, Sigma is obligated to pay to Sangamo

## **Table of Contents**

minimum annual payments, a share of certain revenues received by Sigma from sublicensees, and royalty payments on the sale of licensed products and services. Sigma also has the right to sublicense the ZFP technology for research applications and we were eligible to receive 25% of any sublicensing revenues. We retain the sole right to use and license our ZFP technology for GMP production purposes, for the production of materials used in or administered to humans, and for any other industrial commercial use.

In October 2009, Sangamo expanded its license agreement with Sigma. In addition to the original terms of the license agreement, Sangamo provided Sigma with the exclusive rights to develop and distribute ZFP-modified cell lines for commercial production of protein pharmaceuticals and certain ZFP-engineered transgenic animals for commercial applications. Under the terms of the agreement, Sigma made a total upfront payment of \$20.0 million. There were two components to the \$20.0 million we received: an equity investment by Sigma in 636,133 shares of Sangamo common stock valued at \$4.9 million and a \$15.1 million upfront license fee. The upfront license fee was recognized on a straight-line basis from the effective date of the expanded license through July 2010, which represents the period over which we were obligated to perform research services for Sigma. Sangamo is also eligible to receive commercial license fees of \$5.0 million based upon a percentage of net sales and sublicensing revenue and thereafter a royalty of 10.5% of net sales and sublicensing revenue. In addition, upon the achievement of certain cumulative commercial milestones Sigma will make milestone payments to Sangamo up to an aggregate of \$25.0 million.

The agreements may be terminated by Sigma at any time with a 90-day notice or by either party upon an uncured material breach of the other party. As a result, actual future milestone payments could be lower than the amounts stated above. In the event of any termination, all rights to use our ZFP technology will revert to us, and Sigma will no longer be permitted to practice our ZFP technology or to develop or, except in limited circumstances, commercialize any products derived from our ZFP technology.

Revenues related to the Sigma agreements, excluding royalty revenues, were \$11.6 million, \$11.1 million and \$3.3 million during 2010, 2009 and 2008, respectively. Royalty revenues under the Sigma agreement were \$734,000, \$332,000 and \$388,000 during 2010, 2009 and 2008, respectively. Related costs and expenses incurred under the Sigma agreement were \$1.2 million, \$2.6 million and \$2.2 million during 2010, 2009 and 2008, respectively.

### ***Agreement with Dow AgroSciences in Plant Agriculture***

In October 2005, we entered into an exclusive commercial license with Dow AgroSciences LLC (DAS). Under this agreement, we are providing DAS with access to our proprietary zinc finger DNA-binding protein (ZFP) technology and the exclusive right to use our ZFP technology to modify the genomes or alter the nucleic acid or protein expression of plant cells, plants, or plant cell cultures. We have retained rights to use plants or plant-derived products to deliver ZFP TFs or ZFNs into human or animals for diagnostic, therapeutic, or prophylactic purposes.

Pursuant to the Research License and Commercial Option Agreement which we entered into in October 2005, DAS made an initial cash payment to us of \$7.5 million. In November 2005, the Company sold approximately 1.0 million shares of common stock to DAS at a price of \$3.85 per share, resulting in proceeds of \$3.9 million. Our agreement with DAS provided for an initial three-year research term during which DAS agreed to pay Sangamo \$6.0 million in research funding over the three-year period and make additional payments of up to \$4.0 million in research milestone payments during this same period, depending on the success of the research program. In June 2008, DAS exercised its option under the agreement to obtain a commercial license to sell products incorporating or derived from plant cells generated using our ZFP technology, including agricultural crops, industrial products and plant-derived biopharmaceuticals. The exercise of the option triggered a one-time commercial license fee of \$6.0 million, payment of the remaining \$2.3 million of the previously agreed \$4.0 million in research milestones, development and commercialization milestone payments for each product, and royalties on sales of products.



## **Table of Contents**

We agreed to supply DAS and its sublicensees with ZFP TFs and/or ZFNs for both research and commercial use over the initial three year period of the agreement and have amended and extended this provision. The agreement also provides for minimum sublicense fees each year due to us every October, provided the agreement is not terminated by DAS. Annual fees range from \$250,000 to \$3.0 million and total \$25.3 million over 11 years. Furthermore, DAS has the right to sublicense our ZFP technology to third parties for use in plant cells, plants, or plant cell cultures, and we will be entitled to 25% of any cash consideration received by DAS under such sublicenses. We do not have any performance obligations with respect to the sublicensing activities to be conducted by DAS. DAS has the right to terminate the agreement at any time; accordingly, our actual sublicense fees over the term of the agreement could be lower than \$25.3 million. In addition, each party may terminate the agreement upon an uncured material breach of the agreement by the other party. In the event of any termination of the agreement, all rights to use our ZFP technology will revert to us, and DAS will no longer be permitted to practice our ZFP technology or to develop or, except in limited circumstances, commercialize any products derived from our ZFP technology.

The commercial license fee of \$6.0 million, the remaining research milestones of \$2.3 million and the unrecognized portion of the initial cash payment were recognized ratably over the period from option exercise through December 31, 2010. In December 2010, we amended our agreement with DAS to extend the period of reagent manufacturing services through December 31, 2011 and research services through December 31, 2012.

Revenues under the agreement were \$4.4 million, \$8.8 million and \$7.4 million during 2010, 2009 and 2008, respectively. Related costs and expenses incurred under the agreement were \$671,000, \$639,000 and \$391,000 during 2010, 2009 and 2008, respectively.

### ***Pharmaceutical Protein Production***

The production of pharmaceutical proteins, such as therapeutic antibodies, is an important area of commercial growth. Sangamo scientists and their collaborators have demonstrated that ZFP-engineered mammalian cells may be used to increase the yield of systems used for pharmaceutical protein production.

We have established several research collaborations in this area. Commencing in December 2004, we had a research collaboration agreement with Pfizer Inc. (Pfizer) to use our ZFP technology to develop enhanced cell lines for protein pharmaceutical production. Under the terms of the agreement, Pfizer funded research at Sangamo and we provided our proprietary ZFP technology for Pfizer to assess its feasibility for use in mammalian cell-based protein production. We generated novel cell lines and vector systems for enhanced protein production as well as novel technology for rapid creation of new production cell lines. As of December 31, 2009, we have received all funding due from Pfizer under the 2004 research collaboration agreement. In December 2008, we entered into a license agreement with Pfizer to provide Pfizer with a worldwide, non-exclusive license for the use of certain ZFP Nuclease (ZFNs) reagents to permanently eliminate the Glutamine Synthetase (GS) gene in Chinese Hamster Ovary (CHO) cell lines and for the use of these ZFN-modified cells for clinical and commercial production of therapeutic proteins. Under the terms of this agreement we received a one time payment of \$3.0 million from Pfizer for a fully paid commercial license.

Revenues under the Pfizer agreements were \$0, \$325,000 and \$3.0 million in 2010, 2009 and 2008, respectively. Related costs and expenses incurred under the Pfizer agreements were \$0, \$0 and \$66,000 in 2010, 2009 and 2008, respectively.

In April 2007, we entered into a research and license agreement with Genentech, Inc. pursuant to which we provide Genentech with access to our proprietary ZFN technology for use in mammalian cell-based protein pharmaceutical production. Under the research and license agreement, we developed and delivered to Genentech ZFNs capable of making certain targeted modifications to the genome of an identified Genentech cell line to generate cell lines with novel characteristics for protein pharmaceuticals. In the research and license agreement, we granted Genentech a non-exclusive, worldwide, sublicensable right to use our ZFNs to generate cell lines with novel characteristics for protein pharmaceutical production purposes and to generate the same targeted

---

**Table of Contents**

modifications in the Genentech cell lines using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. Under the research and license agreement, to date Genentech has paid us a total of \$1.2 million, which consists of an upfront fee, technology access fees and milestone payments for the achievement of research-based milestones. Genentech has continuing obligations to pay us an annual technology access fee and, for each product developed by Genentech containing a protein expressed by the modified cell line created using our ZFN technology, aggregate milestone payments of up to \$5.4 million upon achievement of specified milestones relating to the development and commercialization of such products. We have retained the sole right, at our discretion, to enforce alleged infringements on our ZFP intellectual property; provided, however, that if we fail to abate such alleged infringements involving modifications to the genome of the identified Genentech cell line within a specified period of time, Genentech has the right to reduce the amount of the milestone payments until we abate such infringement or until there is a final determination regarding the infringement. The research and license agreement continues until the later of ten years or expiration of the last valid patent claim covering the products containing a protein expressed by the modified cell line generated using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. In addition, Genentech may terminate the research and license agreement upon thirty days written notice. Either party may terminate the agreement upon a material breach by the other party.

In February 2008, we entered into a second research and license agreement with Genentech, which expanded the relationship established in the April 2007 research and license agreement by increasing the number of potential targets in the genome of the identified Genentech cell line against which Genentech may use or apply our ZFN technology in mammalian cell-based protein pharmaceutical production. With respect to each potential target identified by Genentech, Genentech will pay us an up-front fee, an annual on-going technology access fee, and milestone payments upon achievement of specified milestones relating to the construction and delivery of ZFNs. In addition, for each product developed by Genentech containing a protein expressed by a modified cell line using our ZFN technology, Genentech will make aggregate milestone payments of up to \$5.4 million upon the achievement of specified milestones relating to the development and commercialization of such products. Under the second license and research agreement, to date Genentech has paid us \$275,000 for an up-front fee, annual technology access fees and the achievement of research-based milestones. We have retained the sole right, at our discretion, to enforce alleged infringements on our ZFP intellectual property; provided, however, that if we fail to abate such alleged infringements involving the modifications to the genome of the identified Genentech cell line relating to the second research and license agreement within a specified period of time, Genentech has the right to reduce the amount of the milestone payments until we abate such infringement or until there is a final determination regarding the infringement. The second research and license agreement continues until the later of ten years or expiration of the last valid patent claim covering the products containing a protein expressed by the modified cell line generated using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. In addition, Genentech may terminate at any time any research plan or license relating to a designated target. Either party may terminate the agreement upon a material breach by the other party.

In addition, pursuant to a license agreement between Sangamo and Sigma, effective as of July 10, 2007, Sigma has the exclusive right to offer certain services to Genentech involving Sangamo's ZFN technology that are covered under the second research and license agreement. Notwithstanding such exclusive right, Sigma has agreed to permit Sangamo to directly offer the ZFN-related services to Genentech under the second research and license agreement, and in exchange we have and will continue to share with Sigma certain payments made to us under the second research and license agreement. Revenues attributable to collaborative research and development performed under the Genentech agreement were \$150,000, \$517,000 and \$389,000 during 2010, 2009 and 2008, respectively. Related costs and expenses performed under the Genentech agreement were \$38,000, \$195,000 and \$147,000 during 2010, 2009 and 2008, respectively.

***Transgenic Animals***

In April 2008, we entered into a license agreement with Open Monoclonal Technology, Inc. (OMT), pursuant to which we granted a royalty-bearing, non-exclusive, sublicensable worldwide license to OMT for the

---

## **Table of Contents**

commercial use of a transgenic animal generated using our ZFN technology. In addition, we have agreed not to transfer ZFNs to third parties for commercial uses similar to OMT's intended use under the Agreement. In consideration of the license and rights granted to OMT, OMT paid us an upfront license fee, and will pay us for each product created or developed through use of Sangamo's ZFN technology aggregate milestone payments of up to \$850,000 upon the achievement of certain specified clinical development milestones, a small percentage royalty on sales of any product developed using Sangamo's ZFN technology and a low single-digit percentage share of payments received by OMT from sublicensees. For any given OMT product, OMT has the right to buy out its future royalty payment obligations under the license agreement by paying a lump sum fee to us. To date, OMT has paid us \$250,000 under the license agreement. We have retained the sole right, at our discretion, to take appropriate actions against persons infringing on our transgenic animal related intellectual property. The license agreement shall continue in effect until neither OMT nor we have any further payment obligations. OMT may terminate the license agreement at any time. Either party may terminate the agreement upon a material breach by the other party.

In July 2008, we entered into a research and license agreement with F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. (collectively, Roche), pursuant to which we provided Roche with access to aspects of our proprietary ZFN technology. During an initial research term, Roche had the right to use ZFNs provided by us to generate ZFN-modified cell lines and animals having targeted modifications in a specified gene in a specified species, solely for research purposes. In December 2009, pursuant to the research and license agreement Roche exercised an option to receive an exclusive, worldwide license to use such animals in the production of therapeutic and diagnostic products. This exclusive commercial license shall continue, on a country-by-country and product-by-product basis, until the later of 10 years after the first commercial sale in such country or the expiration of the last valid patent claim covering such product. We have agreed not to transfer or license to third parties the specific ZFNs provided to Roche under the research and license agreement, or derivatives of such ZFNs.

Under the research and license agreement, to date Roche has paid us \$550,000 for research milestone payments, quarterly maintenance research fees and an option license fee. Roche has agreed to pay us an additional research fee upon the delivery of the ZFN specified in the research and license agreement, a quarterly ongoing research maintenance fee during the research term and milestone payments upon the achievement of certain clinical development milestones relating to products produced under such commercial license, and low-single digit royalties on sales of such products. The aggregate milestone payments for therapeutic products will not exceed \$5.75 million, but the diagnostics milestone payments are not similarly capped. Under the research and license agreement, on a product-by-product basis, Roche has the right to buy out its future royalty payment obligations by paying specified fixed amounts. Roche has the right to terminate this research and license agreement in its entirety or in part (on a country and product basis) upon thirty days advance written notice. Either party may terminate the agreement upon a material breach by the other party.

Pursuant to the July 2007 License Agreement between Sigma and Sangamo, Sigma has the exclusive right to offer certain services involving Sangamo's ZFN technology that are covered under the research and license agreements with Roche and OMT. Notwithstanding this exclusive right, Sigma has agreed that we may directly offer the ZFN-related services to Roche and OMT under the research and license agreement and in return we have and will continue to share with Sigma certain payments made to us under the research and license agreement. Revenues recognized under the Roche and OMT agreements, net of payments made to Sigma, are included in royalty revenues attributable to the Sigma agreement, as described above.

### **Funding from Research Foundations**

#### ***The Juvenile Diabetes Research Foundation International***

In October 2006, we announced an agreement with the Juvenile Diabetes Research Foundation International (JDRF) to provide financial support to one of our Phase 2 human clinical studies (SB-509-601) of SB-509, a ZFP

**Table of Contents**

Therapeutic that is in development for the treatment of diabetic neuropathy. Under the agreement with JDRF and subject to its terms and conditions, including our achievement of certain milestones associated with the Phase 2 clinical trial (SB-509-601) of SB-509 for the treatment of mild to moderate diabetic neuropathy, JDRF was obligated to pay us an aggregate amount of up to \$3.0 million which was received in full through December 31, 2009. After the first commercial launch of SB-509 in a major market, JDRF has the right to receive, subject to certain limitations, annual payments from Sangamo, until such time when the total amount paid to JDRF, including payments made on account of certain licensing arrangements, equals three times the amount received by us from JDRF.

In January 2010, JDRF and Sangamo amended the agreement and, subject to its terms and conditions, JDRF will provide additional funding of up to \$3.0 million for a Phase 2b trial in diabetic neuropathy (SB-509-901) which is intended to partially fund expenses related to the trial. Under the amended agreement, we are obligated to use commercially reasonable efforts to carry out the Phase 2b trial and, thereafter, to develop and commercialize a product containing SB-509 for the treatment of diabetes and complications of diabetes. We are obligated to cover all costs of the Phase 2b trial that are not covered by JDRF's grant. If we fail to satisfy these obligations, JDRF may have the right, subject to certain limitations, to obtain an exclusive, sublicensable license, to the intellectual property generated by us in the course of the Phase 2b trial, to make and commercialize products containing SB-509 for the treatment of diabetes and complications of diabetes. If JDRF obtains such a license, it is obligated to pay us a percentage of its revenues from product sales and sublicensing arrangements. If JDRF fails to satisfy its obligations to develop and commercialize a product containing SB-509 under the agreement, then their license rights will terminate and we will receive a non-exclusive, fully paid license, for any intellectual property developed during JDRF's use of the license, to research, develop and commercialize products containing SB-509 for the treatment of diabetes and complications of diabetes.

Revenues attributable to research and development activities performed under the JDRF agreements were \$1.5 million, \$500,000 and \$1.0 million during 2010, 2009 and 2008, respectively.

***The Michael J. Fox Foundation for Parkinson's Research***

In January 2007, we announced an agreement with the Michael J. Fox Foundation for Parkinson's Research (MJFF) to provide financial support of Sangamo's ZFP TFs to activate the expression of glial cell line-derived neurotrophic factor (GDNF) that has shown promise in preclinical testing to slow or stop the progression of Parkinson's disease. Under the agreement with MJFF and subject to its terms and conditions, MJFF paid the Company \$950,000, the total funds due under the agreement, over a period of two years. In June 2010, we received a commitment for renewed funding from MJFF to support further studies of ZFP TF activators of GDNF. Subject to the terms and conditions of the agreement, the \$895,000 award is being paid over a period of two years and is intended to substantially fund our research efforts related to the agreement. Revenue will be recognized based on expenses incurred by Sangamo in conduct of the research set forth in the agreement.

Revenues attributable to research and development performed under the MJFF agreement were \$445,000, \$0 and \$553,000 during 2010, 2009 and 2008, respectively.

***California Institute for Regenerative Medicine***

In October 2009, the California Institute for Regenerative Medicine (CIRM), a State of California entity, granted a \$14.5 million Disease Team Research Award to develop an AIDS-related lymphoma therapy based on the application of ZFP nuclease (ZFN) gene-editing technology in stem cells. The four year grant supports an innovative research project conducted by a multidisciplinary team of investigators, including investigators from the University of Southern California, City of Hope National Medical Center and Sangamo BioSciences. Sangamo expects to receive funding up to \$5.2 million from the total amount awarded based on expenses incurred for research and development efforts by Sangamo as prescribed in the agreement, and subject to its terms and conditions. The award is intended to substantially fund Sangamo's research and development efforts

**Table of Contents**

related to the agreement. The State of California has the right to receive, subject to the terms and conditions of the agreement between Sangamo and CIRM, payments from Sangamo resulting from sales of a commercial product resulting from research and development efforts supported by the grant, not to exceed two times the amount Sangamo receives in funding under the agreement with CIRM.

Revenues attributable to research and development performed under the CIRM grant agreement were \$989,000, \$0 and \$0 during 2010, 2009 and 2008, respectively.

**Funding from Other Sources*****Qualifying Therapeutic Discovery Project Program***

In October 2010, Sangamo was awarded a total of \$978,000 in grants for four qualifying therapeutic discovery projects under the Patient Protection and Affordable Care Act. The grants are intended to assist in the advancement of four of Sangamo's ongoing therapeutic projects:

SB-509 for Diabetic Peripheral Neuropathy

SB-509 for Amyotrophic Lateral Sclerosis (ALS)

SB-728-T for Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome (HIV / AIDS)

SB-313-xTZ for Recurrent or Refractory Glioblastoma Multiforme

Each project was awarded \$244,000, the maximum amount awarded for any single project, based on qualifying expenses incurred by Sangamo during 2009 and 2010. The total amount awarded was received, and recognized as research grant revenues, during the fourth quarter of 2010.

**NOTE 5 PROPERTY AND EQUIPMENT**

Property and equipment consist of the following (in thousands):

	December 31,	
	2010	2009
Laboratory equipment	\$ 2,406	\$ 1,757
Furniture and fixtures	403	376
Leasehold improvements	944	925
	3,753	3,058
Less accumulated depreciation	(2,080)	(1,404)
	\$ 1,673	\$ 1,654

Depreciation and amortization expenses were \$676,000, \$572,000 and \$523,000 for 2010, 2009 and 2008, respectively.

**Table of Contents****NOTE 6 COMMITMENTS**

Sangamo occupies office and laboratory space under operating leases in Richmond, California that expire in August 2014. Rent expenses were \$563,000, \$563,000 and \$566,000 during 2010, 2009 and 2008, respectively. Future minimum payments under contractual obligations at December 31, 2010 consist of the following (in thousands):

<b>Fiscal Year:</b>	<b>Operating Lease</b>
2011	\$ 585
2012	600
2013	616
2014	417
Thereafter	
<b>Total minimum payments</b>	<b>\$ 2,218</b>

**NOTE 7 STOCKHOLDERS EQUITY*****Convertible Preferred Stock***

All outstanding convertible preferred stock converted into common stock upon consummation of the Company's initial public offering in April 2000. The Company has 5,000,000 preferred shares authorized, which may be issued at the Board's discretion.

***Common Stock***

In October 2009, pursuant to the expansion of the license agreement with Sigma, Sangamo issued 636,000 shares of common stock valued at a price of \$7.73 per share for aggregate proceeds of \$4.9 million.

In October 2009, Sangamo completed an underwritten public offering of its common stock, in which Sangamo sold an aggregate of 3,000,000 shares of its common stock at a public offering price of \$7.20 per share, resulting in net proceeds of approximately \$20.9 million.

***Stock Incentive Plan***

Sangamo's 2004 Stock Incentive Plan (the 2004 Plan), which supersedes the 2000 Stock Incentive Plan (the 2000 Plan), provides for the issuance of common stock and grants of options for common stock to employees, officers, directors and consultants. The exercise price per share will be no less than 85 percent of the fair value per share of common stock on the option grant date, and the option term will not exceed ten years. If the person to whom the option is granted is a 10 percent stockholder, and the option granted qualifies as an Incentive Stock Option Grant, then the exercise price per share will not be less than 110 percent of the fair value per share of common stock on the option grant date, and the option term will not exceed five years. Options granted under the 2004 Plan generally vest over four years at a rate of 25 percent one year from the grant date and one thirty-sixth per month thereafter and expire ten years after the grant, or earlier upon employment termination. Options granted pursuant to the 2004 Plan may be exercised prior to vesting, with the related shares subject to Sangamo's right to repurchase the shares that have not vested at the issue price if the option holder terminates employment. The right of repurchase lapses over the original option vesting period, as described above. Approximately 6.5 million shares were initially reserved for issuance pursuant to the 2000 Plan and the 2004 Plan. The number of shares authorized for issuance under the 2004 Option Plan automatically increases on the first trading day of the fiscal year by an amount equal to 3.0 percent of the total number of shares of the Company's common stock outstanding on the last trading day of the preceding fiscal year, but in no event shall any such increase exceed

**Table of Contents**

1.75 million shares per year. During 2010, 2009 and 2008, 1,349,832, 1,231,712 and 1,209,461 additional shares, respectively, were authorized for issuance under the 2004 Plan pursuant to the evergreen increase feature of such plan.

***Employee Stock Purchase Plan***

Sangamo's 2010 Employee Stock Purchase Plan (Purchase Plan), which supersedes the 2000 Employee Stock Purchase Plan provides a total reserve of 2,100,000 shares of common stock for issuance under the Purchase Plan. Eligible employees may purchase common stock at 85 percent of the lesser of the fair market value of Sangamo's common stock on the first day of the applicable two-year offering period or the last day of the applicable six-month purchase period.

The weighted-average estimated fair value per share of employee purchase rights during 2010, 2009 and 2008 were \$2.76, \$3.11 and \$3.28, respectively, based upon the assumptions in the Black-Scholes valuation model described in Note 1.

***Stock Option Activity***

A summary of Sangamo's stock option activity is as follows:

	Number of Shares	Weighted- Average Exercise per Share Price	Weighted Average Remaining Contractual Term (In years)
Options outstanding at December 31, 2009	7,469,501	\$ 6.81	7.43
Options granted	1,477,000	\$ 5.62	
Options exercised	(229,762)	\$ 3.40	
Options canceled	(606,838)	\$ 8.80	
Options outstanding at December 31, 2010	8,109,901	\$ 6.54	7.30
Options exercisable at December 31, 2010	4,417,488	\$ 7.27	6.03

There were no shares subject to Sangamo's right of repurchase as of December 31, 2010. The intrinsic value of options exercised during 2010, 2009 and 2008 were \$534,304, \$462,000 and \$6.2 million, respectively.

At December 31, 2010, the aggregate intrinsic values of the outstanding and exercisable options were \$11.8 million and \$5.9 million, respectively. The aggregate intrinsic value of shares vested and expected to vest during 2010, 2009 and 2008 was \$11.2 million, \$7.4 million and \$228,000, respectively.

The weighted-average fair value per share of options granted during 2010, 2009 and 2008 was \$3.85, \$3.61 and \$2.62, respectively, based upon the assumption in the Black-Scholes valuation model described in Note 1.

**Table of Contents**

The following table summarizes information with respect to stock options outstanding at December 31, 2010:

Range of Exercise Price	Options Outstanding and Exercisable		Options Exercisable	
	Number of Shares of common stock subject to options	Weighted Average Remaining Contractual Life (In years)	Number of Shares of common stock subject to options	Weighted Average Exercise Price
\$ 2.04 \$ 3.20	59,941	4.93	38,663	\$ 2.69
\$ 3.45 \$ 3.45	1,944,876	7.94	924,154	\$ 3.45
\$ 3.53 \$ 4.92	829,291	5.11	749,041	\$ 4.08
\$ 4.93 \$ 5.30	302,835	3.96	302,835	\$ 5.19
\$ 5.35 \$ 5.35	1,175,200	8.93	291,700	\$ 5.35
\$ 5.42 \$ 5.66	73,500	7.63	26,750	\$ 5.60
\$ 5.70 \$5.70	1,160,000	9.94		
\$ 5.89 \$6.92	864,392	6.00	713,610	\$ 6.71
\$ 6.94 \$13.40	393,866	5.45	352,590	\$ 9.24
\$13.98 \$15.68	1,306,000	6.18	1,018,145	\$ 14.16
	8,109,901	7.30	4,417,488	\$ 7.27

During 2007, we issued 100,000 restricted stock units under the Company's 2004 Stock Incentive Plan at a grant date fair value of \$14.72 per share. These restricted stock units will vest 25% after completion of one year of service and the balance will vest in equal monthly installments over the following thirty-six months of continued service. During 2010, we issued 10,000 restricted stock units under the Company's 2004 Stock Incentive Plan at a grant date fair value of \$6.05. These restricted stock units will vest in equal monthly installments over a two-year service period. Fair value of restricted stock units are estimated based upon the closing sales price of the Company's common stock on the grant date.

As of December 31, 2010, options to purchase 8,109,901 shares and 31,667 restricted stock units were outstanding under the Company's stock option plans, and 2,543,440 shares were reserved for future awards. As of December 31, 2010, we had 2,036,330 shares of common stock reserved for future issuance under the 2010 Employee Stock Purchase Plan.

**NOTE 8 COMPREHENSIVE LOSS**

Activities in comprehensive loss were as follows (in thousands):

	Year Ended December 31,		
	2010	2009	2008
Net loss	\$ (24,854)	\$ (18,587)	\$ (24,302)
(Decrease) / Increase in unrealized gains on marketable securities	(24)	(258)	79
Other			(98)
Comprehensive loss	\$ (24,878)	\$ (18,845)	\$ (24,321)



**Table of Contents****NOTE 9 INCOME TAXES**

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets are as follows (in thousands):

	December 31,	
	2010	2009
Deferred tax assets:		
Net operating loss carryforwards	\$ 56,254	\$ 49,157
Research and development tax credit carryforwards	4,689	4,049
Capitalized research	259	435
Other	1,897	2,032
	63,099	55,673
Valuation allowance	(63,099)	(55,673)
Net deferred tax assets	\$	\$

Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by \$7.4 million, \$4.1 million and \$8.0 million for the years ended December 31, 2010, 2009 and 2008, respectively. As of December 31, 2010, Sangamo had net operating loss carryforwards for federal and state income tax purposes of approximately \$142.8 million and \$131.9 million, respectively. If not utilized, the net federal and state operating loss carryforwards will begin to expire in 2011 and 2012, respectively. The Company also has federal and state research tax credit carryforwards of \$3.6 million and \$3.8 million, respectively. The federal research credits will begin to expire in 2018 while the state research credits have no expiration date. Utilization of the Company's net operating loss carryforwards and research tax credit carryforwards may be subject to substantial annual limitations due to the ownership change limitations provided by the Internal Revenue Code and similar state provisions. The annual limitation could result in the expiration of the net operating loss carryforwards and research tax credit carryforwards before use.

We file U.S and state income tax returns with varying statutes of limitations. The tax years from 2000 forward remain open to examination due to the carryover of net operating losses or tax credits.

The Company's practice is to recognize interest and/or penalties related to income tax matters in income tax expense. As of December 31 2010, the Company had no accrued interest and/or penalties. The Company does not anticipate a significant change to its unrecognized tax benefits over the next twelve months. The unrecognized tax benefits may change during the next year for items that arise in the ordinary course of business. In the event that any unrecognized tax benefits are recognized, the effective tax rate will not be affected.

The following table summarizes the activity related to the Company's unrecognized tax benefits (in thousands):

	December 31,		
	2010	2009	2008
Beginning balance	\$ 1,643	\$ 1,282	\$ 1,300
Additions based on tax positions related to the current year	253	361	79
Additions for tax positions of prior years			
Reductions for tax positions of prior years			(97)
Ending Balance	\$ 1,896	\$ 1,643	\$ 1,282



**Table of Contents****NOTE 10 ACCOUNTS PAYABLE AND ACCRUED LIABILITIES**

Accounts payable and accrued liabilities consist of the following (in thousands):

	December 31,	
	2010	2009
Accounts payable	\$ 3,537	\$ 1,311
Accrued clinical trial expense	1,405	723
Accrued professional fees	278	192
Deferred rent	153	160
Other	281	72
 Total accounts payable and accrued liabilities	 \$ 5,654	 \$ 2,458

**NOTE 11 QUARTERLY FINANCIAL DATA (UNAUDITED)**

The following table sets forth certain unaudited quarterly financial data for the eight quarters ended December 31, 2010. The unaudited information set forth below has been prepared on the same basis as the audited information and includes all adjustments necessary to present fairly the information set forth herein. The operating results for any quarter are not indicative of results for any future period. All data is in thousands except per common share data.

	2010				2009			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Revenues	\$ 6,648	\$ 6,525	\$ 2,943	\$ 4,689	\$ 3,157	\$ 4,726	\$ 4,063	\$ 10,241
Expenses	\$ 10,651	\$ 10,404	\$ 11,658	\$ 13,027	\$ 10,182	\$ 9,884	\$ 8,867	\$ 12,656
Net loss	\$ (3,978)	\$ (3,860)	\$ (8,695)	\$ (8,321)	\$ (6,832)	\$ (4,511)	\$ (4,851)	\$ (2,393)
Net loss per share	\$ (0.09)	\$ (0.09)	\$ (0.19)	\$ (0.18)	\$ (0.17)	\$ (0.11)	\$ (0.12)	\$ (0.05)

---

**Table of Contents**

**ITEM 9 CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

None.

**ITEM 9A CONTROLS AND PROCEDURES**

**(I) Evaluation of Disclosure Controls and Procedures**

We maintain disclosure controls and procedures to ensure that information we are required to disclose in reports that we file or submit under the Securities Exchange Act of 1934, as amended (Exchange Act) is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission's (SEC) rules and forms. Our management evaluated, with the participation of our chief executive officer (CEO) and our chief financial officer (CFO), the effectiveness of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) under the Exchange Act. Based on that evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective, at a reasonable assurance level, as of December 31, 2010 and as of the date of this filing.

There have been no significant changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect internal control over financial reporting during the fiscal quarter ended December 31, 2010.

**(II) Management's Report on Internal Control over Financial Reporting**

Internal control over financial reporting refers to the process designed by, or under the supervision of, our CEO and CFO, and effected by our Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that:

- (1) Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- (2) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- (3) Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Management is responsible for establishing and maintaining an adequate internal control over financial reporting for the Company. Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework set forth in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework set forth in Internal Control Integrated Framework, our management concluded that our internal control over financial reporting was effective as of December 31, 2010. The effectiveness of our internal control over financial reporting as of December 31, 2010 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report which is included herein.



---

**Table of Contents**

**(III) Report of Independent Registered Public Accounting Firm**

The Board of Directors and Stockholders

Sangamo BioSciences, Inc.

We have audited Sangamo BioSciences, Inc.'s internal control over financial reporting as of December 31, 2010, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). Sangamo BioSciences, Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Sangamo BioSciences, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2010 based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Sangamo BioSciences, Inc. as of December 31, 2010 and 2009, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2010 and our report dated February 16, 2011 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Palo Alto, California

February 16, 2011

**ITEM 9B OTHER INFORMATION**

None.

**Table of Contents**

**PART III**

Certain information required by Part III is omitted from this Report on Form 10-K since we intend to file our definitive Proxy Statement for our next Annual Meeting of Stockholders, pursuant to Regulation 14A of the Securities Exchange Act of 1934, as amended (the 2011 Proxy Statement), no later than April 30, 2011, and certain information to be included in the 2011 Proxy Statement is incorporated herein by reference.

**ITEM 10 DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

The information required by this item concerning our directors, executive officers, Section 16 compliance and corporate governance matters is incorporated by reference to the information set forth in the sections titled Election of Directors, Management, and Section 16(a) Beneficial Ownership Reporting Compliance in our 2011 Proxy Statement.

**ITEM 11 EXECUTIVE COMPENSATION**

The information required by this item regarding executive compensation is incorporated by reference to the information set forth in the sections titled Executive Compensation in our 2011 Proxy Statement.

**ITEM 12 SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

The information required by this item regarding security ownership of certain beneficial owners and management is incorporated by reference to the information set forth in the section titled Security Ownership of Certain Beneficial Owners and Management and Equity Compensation Plans in our 2011 Proxy Statement.

**ITEM 13 CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

The information required by this item regarding certain relationships and related transactions is incorporated by reference to the information set forth in the section titled Certain Relationships and Related Transactions in our 2011 Proxy Statement.

**ITEM 14 PRINCIPAL ACCOUNTING FEES AND SERVICES**

The information required by this item regarding principal accounting fees and services is incorporated by reference to the information set forth in the section titled Principal Accounting Fees and Services in our 2011 Proxy Statement.

**Table of Contents**

**PART IV**

**ITEM 15 EXHIBITS AND FINANCIAL STATEMENT SCHEDULES**

(a) The following documents are included as part of this Annual Report on Form 10-K:

1. Financial Statements See Index to Consolidated Financial Statements in Item 8.
2. Financial Statement Schedules Not Applicable.
3. Exhibits See Index to Exhibits.



**Table of Contents****SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on February 16, 2011.

SANGAMO BIOSCIENCES, INC.

By: /s/ EDWARD O. LANPHIER II  
**Edward O. Lanphier II**  
*President, Chief Executive Officer and Director*

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

<b>Signature</b>	<b>Title</b>	<b>Date</b>
/s/ EDWARD O. LANPHIER II <b>Edward O. Lanphier II</b>	President, Chief Executive Officer and Director (Principal Executive Officer)	February 16, 2011
/s/ H. WARD WOLFF <b>H. Ward Wolff</b>	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	February 16, 2011
/s/ WILLIAM R. RINGO <b>William R. Ringo</b>	Director and Chairman of the Board	February 16, 2011
/s/ PAUL B. CLEVELAND <b>Paul B. Cleveland</b>	Director	February 16, 2011
/s/ STEPHEN G. DILLY, M.B.B.S, PH.D <b>Stephen G. Dilly, M.B.B.S, Ph.D</b>	Director	February 16, 2011
/s/ WILLIAM G. GERBER, M.D. <b>William G. Gerber, M.D.</b>	Director	February 16, 2011
/s/ JOHN W. LARSON <b>John W. Larson</b>	Director	February 16, 2011
/s/ STEVEN J. MENTO, PH.D <b>Steven J. Mento, Ph.D</b>	Director	February 16, 2011
/s/ THOMAS G. WIGGANS <b>Thomas G. Wiggans</b>	Director	February 16, 2011



**Table of Contents****INDEX TO EXHIBITS****Exhibit**

<b>Number</b>	<b>Description of Document</b>
1.1	Agency Agreement between Sangamo and JMP Securities, Piper Jaffray & Co., Leerink Swann & Company and Janney Montgomery Scott LLC, dated July 16, 2007 (incorporated by reference to Exhibit 1.1 to the Company's Form 8-K filed on July 17, 2007).
1.2	Underwriting Agreement between Sangamo and Jefferies & Company, Inc., dated October 6, 2009 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on October 13, 2009).
3.1	Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed April 4, 2000).
3.2	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed April 4, 2000).
4.1	Form of Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed April 4, 2000).
10.1(+)	2000 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.2 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed February 24, 2000).
10.2	Form of Indemnification Agreement entered into between Sangamo and each of its directors and executive officers (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed February 24, 2000).
10.3	Sublicense Agreement, by and between Sangamo and Johnson & Johnson, dated May 9, 1996 (incorporated by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K/A filed April 22, 2010).
10.4	Patent License Agreement between Sangamo and Massachusetts Institute of Technology, dated May 9, 1996, as amended by the First Amendment, dated December 10, 1997 (incorporated by reference to Exhibit 10.4 to the Company's Annual Report on Form 10-K/A filed April 22, 2010).
10.5	License Agreement between Sangamo and the Johns Hopkins University, dated June 25, 1995, as amended by Amendment No. 1, dated July 16, 1998 (incorporated by reference to Exhibit 10.5 to the Company's Annual Report on Form 10-K/A filed April 22, 2010).
10.6	Triple Net Laboratory Lease, between Sangamo and Point Richmond R&D Associates II, LLC, dated May 23, 1997 (incorporated by reference to Sangamo's Registration Statement on Form S-1 (Reg. No. 333-30314), as amended).
10.7(+)	Employment Agreement, between Sangamo and Edward O. Lanphier II, dated June 1, 1997 (incorporated by reference to Exhibit 10.15 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed March 14, 2000).
10.8	Second Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, dated December 2, 1998 (incorporated by reference to Exhibit 10.8 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.9	Amendment No. 2 to License Agreement between Sangamo and the Johns Hopkins University, effective as of July 26, 1999 (incorporated by reference to Exhibit 10.9 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.10	Third Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, dated September 1, 1999 (incorporated by reference to Exhibit 10.10 to the Company's Annual Report on Form 10-K, filed March 5, 2010).

**Table of Contents****Exhibit**

<b>Number</b>	<b>Description of Document</b>
10.11	Fourth Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, effective as of February 10, 2000 (incorporated by reference to Exhibit 10.11 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.12	Amendment No. 3 to License Agreement between Sangamo and the Johns Hopkins University, effective as of March 10, 2000 (incorporated by reference to Exhibit 10.12 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.13	License Agreement by and between The Scripps Research Institute and Sangamo, dated March 14, 2000 (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.14	Fifth Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, effective as of December 15, 2000 (incorporated by reference to Exhibit 10.14 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.15(+)	2004 Stock Incentive Plan (incorporated by reference to Appendix C of the Company's Definitive Proxy Statement on Schedule 14A filed April 29, 2004).
10.16	First Amendment to Triple Net Laboratory Lease, between Sangamo and Point Richmond R&D Associates II, LLC, dated March 12, 2004 (incorporated by reference to Sangamo's Annual Report on Form 10-K for the year ended December 31, 2004).
10.17	Sixth Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, dated September 1, 2005 (incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.18	Research and Commercial Option License Agreement, dated October 5, 2005, between Sangamo and Dow AgroSciences LLC (incorporated by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K, filed March 16, 2006).
10.19	Research, Development and Commercialization Agreement dated October 24, 2006 between Sangamo and Juvenile Diabetes Research Foundation International (incorporated by reference to Exhibit 10.19 to the Company's Annual Report on Form 10-K, filed March 1, 2007).
10.20	Seventh Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, dated October 27, 2006 (incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.21	First Amendment of Research and Commercial Option License Agreement between Sangamo and Dow AgroSciences LLC, dated November 7, 2006 (incorporated by reference to Exhibit 10.21 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.22	Asset Purchase Agreement dated December 1, 2006 by and between Sangamo and Edwards Lifesciences LLC (incorporated by reference to the Company's Form 8-K filed on December 28, 2006).
10.23	Eighth Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, dated February 1, 2007 (incorporated by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.24	Research and License Agreement between Sangamo and Genentech, Inc., dated April 27, 2007 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q, filed August 9, 2007).
10.25	Amendment No. 4 to License Agreement between Sangamo and the Johns Hopkins University, effective as of May 21, 2007 (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K, filed March 5, 2010).

**Table of Contents**

**Exhibit**

<b>Number</b>	<b>Description of Document</b>
10.26	License Agreement between Sangamo and Sigma-Aldrich Corporation, dated July 10, 2007 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q, filed November 1, 2007).
10.27	Common Stock Purchase Agreement between Sangamo and Sigma-Aldrich Corporation, dated July 10, 2007 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on July 10, 2007).
10.28	First Amendment of the License Agreement between Sigma-Aldrich Corporation and Sangamo, dated November 9, 2007 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 6, 2009).
10.29	Letter Agreement between Sangamo and Sigma-Aldrich Corporation, dated February 25, 2008 (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on May 9, 2008).
10.30	Second Research and License Agreement between Sangamo and Genentech, Inc., dated February 27, 2008 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on May 9, 2008).
10.31	License Agreement between Sangamo and Open Monoclonal Technology, Inc., dated April 2, 2008 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on August 8, 2008).
10.32	Amendment to License Agreement by and between The Scripps Research Institute and Sangamo, dated April 29, 2008 (incorporated by reference to Exhibit 10.32 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.33	Research and License Agreement between Sangamo and F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc., dated July 2, 2008 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 4, 2008).
10.34(+)	Plan Amendment to 2004 Stock Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on August 7, 2008).
10.35	Letter Agreement between Sangamo and Sigma-Aldrich Corporation, dated July 2, 2008 (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on November 4, 2008).
10.36	License Agreement between Sangamo and Pfizer Inc., dated December 19, 2008 (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K, filed March 3, 2009).
10.37(+)	Amended and Restated Employment Agreement between Sangamo and H. Ward Wolff, dated December 31, 2008 (incorporated by reference to Exhibit 10.26 to the Company's Annual Report on Form 10-K, filed March 3, 2009).
10.38(+)	First Amendment to Employment Agreement between Sangamo and Edward O. Lanphier, dated December 31, 2008 (incorporated by reference to Exhibit 10.27 to the Company's Annual Report on Form 10-K, filed March 3, 2009).
10.39	Second Amendment of Research and Commercial Option License Agreement between Sangamo and Dow AgroSciences LLC, dated February 13, 2009 (incorporated by reference to Exhibit 10.39 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.40	Third Amendment of Research and Commercial Option License Agreement between Sangamo and Dow AgroSciences LLC, dated February 28, 2009 (incorporated by reference to Exhibit 10.40 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.41	Second Amendment of the License Agreement between Sigma-Aldrich Corporation and Sangamo, dated September 25, 2009 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 6, 2009).

**Table of Contents**

**Exhibit**

<b>Number</b>	<b>Description of Document</b>
10.42	Common Stock Purchase Agreement between Sangamo and Sigma-Aldrich Corporation, dated October 2, 2009 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on October 5, 2009).
10.43	Third Amendment to the License Agreement between Sigma-Aldrich Corporation and Sangamo, dated October 2, 2009 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 6, 2009).
10.44	First Amendment to the Research, Development and Commercialization Agreement between Sangamo and Juvenile Diabetes Research Foundation International, dated January 8, 2010 (incorporated by reference to Exhibit 10.44 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.45	Fourth Amendment of Research and Commercial Option License Agreement between Sangamo and Dow AgroSciences LLC, dated January 8, 2010 (incorporated by reference to Exhibit 10.45 to the Company's Annual Report on Form 10-K, filed March 5, 2010).
10.46	Form of Non-Employee Director Restricted Stock Issuance Agreement (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on August 5, 2010).
10.47	Fifth Amendment of the Research and Commercial License Option Agreement between Sangamo BioSciences, Inc. and Dow AgroSciences LLC, dated May 14, 2010 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 3, 2010).
10.48	Sixth Amendment of the Research and Commercial License Option Agreement between Sangamo BioSciences, Inc. and Dow AgroSciences LLC, dated August 27, 2010 (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on November 3, 2010).
10.49	Seventh Amendment of the Research and Commercial License Option Agreement between Sangamo BioSciences, Inc. and Dow AgroSciences LLC, dated December 3, 2010.
10.50	Letter Agreement Amendment regarding the Research and Commercial License Option Agreement between Sangamo BioSciences, Inc. and Dow AgroSciences LLC, dated December 3, 2010.
21.1	Subsidiaries of the Company (incorporated by reference to Exhibit 21.1 to the Company's Annual Report on Form 10-K, filed March 27, 2003).
23.1	Consent of Independent Registered Public Accounting Firm.
31.1	Rule 13a-14(a) Certification of Chief Executive Officer.
31.2	Rule 13a-14(a) Certification of Principal Financial Officer.
32.1	Certification Pursuant to 18 U.S.C. Section 1350.

Confidential treatment has been granted for certain information contained in this document pursuant to an order of the Securities and Exchange Commission. Such information has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested for certain information contained in this document. Such information has been omitted and filed separately with the Securities and Exchange Commission.

(+) Indicates management contract or compensatory plan or arrangement.