

SANGAMO BIOSCIENCES INC  
Form 10-K  
March 05, 2010  
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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**Form 10-K**

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the fiscal year ended December 31, 2009

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 A100**  
**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)*

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

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|   |  |
|---|--|
| <b>Title of Each Class</b>  | <b>Name of Each Exchange on Which Registered</b> |
| Common Stock, \$0.01 par value per share                                | Nasdaq Global Market                             |
| <b>Securities registered pursuant to Section 12(g) of the Act: None</b> |  |

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, 2009 (the last business day of the registrant's most recently completed second fiscal quarter), as reported on the Nasdaq Global Market was \$190,195,177. 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.

|  |  |
|--|--|
| <b>Class</b>                               | <b>Outstanding at February 1, 2010</b> |
| Common Stock, \$0.01 par value per share   | 45,003,214 shares                      |
| <b>DOCUMENTS INCORPORATED BY REFERENCE</b> |  |

|   |                                      |
|---|--------------------------------------|
| <b>Document</b>   | <b>Parts Into Which Incorporated</b> |
| Proxy Statement for the 2010 Annual Meeting of Stockholders | Part III                             |

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**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 are 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.

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### **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, 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) as well as a Phase 2 clinical trial for severe DN. In addition, we have an ongoing Phase 2 trial for amyotrophic lateral sclerosis (ALS). We expect to have data from the Phase 2 trials in severe DN and ALS in 2010.

In 2008, our collaborators at the University of Pennsylvania filed an Investigational New Drug (IND) application with the Food and Drug Administration (FDA) and initiated a Phase 1 clinical trial to evaluate SB-728-T for the treatment of HIV/AIDS. In 2009, we filed an IND application with the FDA and initiated a Phase 1 clinical trial to evaluate SB-728-T for the treatment of HIV/AIDS. SB-728-T represents the first therapeutic application of our ZFN technology. In 2009, our collaborators at City of Hope, filed an IND application for a Phase 1 trial to evaluate a ZFN-based therapeutic for the treatment of glioblastoma multiforme, a type of brain cancer. This trial will begin in 2010.

We have preclinical development programs of ZFP Therapeutics in spinal cord injury, stroke, traumatic brain injury, neuropathic pain, and Parkinson's disease. We have additional research-stage programs in monogenic diseases including X-linked severe combined immunodeficiency (X-linked SCID), hemophilia and hemoglobinopathies.

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 Dow AgroSciences, LLC (DAS), a wholly owned indirect 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 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™.

We also have license agreements with life sciences companies including Pfizer Inc. (Pfizer), 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.

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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, 2010, we either own outright or have exclusively licensed the commercial rights to approximately 257 patents issued in the United States and foreign national jurisdictions, and we have 311 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 proprietary 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 at the molecular level.

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, 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**

#### **The Two Domain Structure of a ZFP Therapeutic**

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### **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 man. 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 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 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 testing this ZFP TF in Phase 2b and Phase 2 clinical trials in subjects with DN and ALS, respectively, and we have preclinical programs in 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 (Figure 1). 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 or the disruption of the glucocorticoid receptor gene to make engineered killer T-cells resistant to glucocorticoids as in our glioblastoma program. 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 sickle cell anemia and 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.

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 hundreds of genes in dozens of different cell types and directly in whole organisms, including mice, rats, rabbits,

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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. We have also administered plasmid encoding our VEGF-A activating transcription factor to humans as part of our clinical trials. We are currently evaluating the efficacy of both ZFP TFs and ZFNs in man.

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

With our ability to 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 and 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 competitive advantages over small-molecule drugs, protein pharmaceuticals and RNA-based approaches.

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*). 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 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.



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Our lead therapeutic development programs are based on the development of a ZFP TF that has been engineered to activate a patient's own VEGF-A gene. 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. We believe that this differentiates Sangamo's approach. We are developing formulations of this VEGF-activating ZFP TF, also called SB-509, for the following conditions: diabetic neuropathy and ALS (see Table 1) and are evaluating the ZFP Therapeutic in several ongoing clinical trials. We are also evaluating the VEGF ZFP TF in preclinical animal studies in spinal cord injury, traumatic brain injury and stroke.

**Product**

| <b>Candidate</b> | <b>Targeted Indication</b>             | <b>Stage of Development</b> | <b>Protocol</b>      | <b>Milestones</b>  |
|------------------|--|-----------------------------|----------------------|--|
| SB-509           | Diabetic Neuropathy: moderately severe | Phase 2b                    | SB-509-901           | Trial initiated January 2010.  |
|                  | Diabetic Neuropathy: mild to moderate  | Phase 2                     | SB-509-601           | Subject enrollment completed. Topline data demonstrate direct neuroregenerative effect with statistically significant (p value=0.02) increase in small unmyelinated nerve fibers in the skin but no differences between SB-509 and placebo treated subjects observed in measures of neurologic function such as nerve conduction velocity and neurologic exam. |
|                  | Diabetic Neuropathy: severe            | Phase 2                     | SB-509-701A<br>and B | Enrollment completed. Expect data in 2010.   |
|                  | Amyotrophic Lateral Sclerosis          | Phase 2                     | SB-509-801           | Study initiated in 2008. Enrollment and treatment completed. Expect data in 2010.  |

Table 1: Summary of current clinical programs evaluating Sangamo's ZFP TF activator of VEGF-A, SB-509.

***Diabetic Neuropathy (DN)******Market Opportunity***

Diabetic peripheral sensory and motor neuropathy is one of the most frequent complications of diabetes. 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 Centers for Disease Control estimates that from 1980 through 2007, the number of Americans with diabetes increased from 5.6 million to 23.6 million and of those about 60 percent to 70 percent have mild to severe forms of neuropathy.

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### *Current Treatments*

Apart from rigorous control of blood glucose, 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, an injectable formulation of plasmid DNA that encodes a ZFP TF, designed to up-regulate the patient's own VEGF-A gene in an effort to address the underlying nerve damage caused by DN. 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*).

In January 2005, we filed an IND application with the FDA for SB-509 for the treatment of mild to moderate diabetic neuropathy. We completed enrollment and treatment of a Phase 1a, single blind, dose-escalation trial to measure the laboratory and clinical safety of SB-509 in human subjects and extended this study to a larger Phase 1b study (SB-509-401). Data from our Phase 1 trial demonstrated that a single treatment of SB-509 was well-tolerated and that no drug-related severe adverse events (SAEs) were observed. Moreover, data from the Phase 1b clinical trial presented at the American Diabetes Association Meeting in June 2008 demonstrate improvements in measures of nerve health. We observed a statistically significant improvement in quantitative sensory testing and nerve examination (NIS-LL) and clinically relevant trends toward improvement in nerve conduction velocity (NCV) measurements in subjects with mild to moderate diabetic neuropathy over a six month period after a single administration of SB-509.

We initiated a double-blind, placebo-controlled, repeat-dosing multi-center Phase 2 clinical trial of SB-509 (SB-509-601) in November 2006 having entered into an agreement with Juvenile Diabetes Research Foundation International (JDRF) in October 2006 to provide up to \$3.0 million in funding to support this trial. We completed enrollment of subjects into this trial in December 2007 and in November 2008 presented top-line data from this study. The data demonstrate that repeat administration of the drug is well tolerated in subjects with mild to moderate DN. However, no significant differences were observed 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. Top-line data from skin biopsies from subjects in which intraepidermal nerve fiber density (IENFD) was measured 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 in subjects with moderate to severe disease.

In April 2007, we initiated a second repeat-dosing placebo-controlled Phase 2 clinical study (SB-509-701) to evaluate SB-509 in subjects with severe DN. In June 2008 we expanded this trial to include an additional cohort of subjects (group B) treated with a different dosing schedule. We presented an interim analysis of data from the first group (A) in October 2008. The data demonstrated that the drug was well tolerated in a repeat dosing setting in this population and among subjects who entered the trial with blocked sural nerves, we observed preferential recovery of NCV in SB-509-treated subjects compared with the placebo-treated group during 180 days post treatment in subjects who entered the trial with blocked sural nerves. We expect to have complete data from this single-blind trial in 2010.

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Based on the data obtained from our Phase 1 and Phase 2 trials, in January 2010 we initiated a double blind, repeat-dosing, placebo controlled Phase 2b study (SB-509-901) in subjects with moderately severe DN. The trial is designed to finalize dose, schedule and primary and secondary endpoints for Phase 3 trials and up to \$3.0 million in funding will be provided by JDRF to support this new study, according the terms of the agreement and 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 progressive degeneration of the 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 5,600 Americans are diagnosed with ALS each year. Approximately 35,000 people at any given time are living with ALS in the United States.

#### *Current Treatments*

There are no drugs available to cure ALS. The FDA has approved a single medication, Rilutek® (Riluzole) which modestly increases lifespan in ALS patients.

#### *Sangamo's Therapeutic Approach*

There are both animal and 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 therapeutic effect of regional muscle delivery of SB-509 in subjects with ALS. We have completed enrollment and the treatment phase of this study and expect to have data in the second half of 2010.

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

#### *Market Opportunity*

HIV infection results in the death of immune system 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 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*

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 (RT) 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.

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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 continuously take antiretroviral drugs which can have significant side effects over time.

### *Sangamo's Therapeutic Approach*

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. 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 repeat-dose Phase 1 clinical trial (SB-728-T-902) of SB-728-T. Both Phase 1 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 also have a research stage program to investigate this approach in hematopoietic stem cells and with our collaborators 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 are developing our ZFN approach as an *in-vivo* application for which we have received a Grand Challenges Explorations grant from the Bill and Melinda Gates Foundation.

### ***Glioblastoma Multiforme (GM)***

#### *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 (GM), the most common type of glioma, is rapidly progressive and nearly universally lethal.

#### *Current Treatments*

Malignant glioma is managed through surgery and radiation which often exacerbates the already severe symptoms caused by the location of the tumor. 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 to 6%. Resections of 90% of bulky tumors are 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.

### *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. Our collaborators have developed an engineered protein known as an IL-13 zetakine that, when expressed in cytotoxic or killer

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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, donor 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 the 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 IND application for a Phase 1 clinical trial of this therapeutic and in January 2010 we announced that COH is initiating a Phase 1 trial in subjects with recurrent /refractory GM.

**ZFP Therapeutic Pre-clinical Stage Programs**

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

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

Neuropathic pain comprises a set of chronic pain disorders that cannot be connected 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 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. 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) and Traumatic Brain Injury (TBI)***

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 11,000 new cases 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. 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. In collaboration with several academic

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labs, we are evaluating our ZFP TF activator of the VEGF-A gene in pre-clinical animal efficacy models of SCI. We have presented data that demonstrates 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 studies in SCI to investigate dosing and timing of dose as well as animal studies in traumatic brain injury are ongoing.

### ***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 in the brain, or neurons, 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. 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 glial cell line-derived neurotrophic factor (GDNF) to treat PD. In collaboration with scientists at the University of California, San Francisco (UCSF), we are evaluating ZFP TFs that activate the glial cell line-derived neurotrophic factor (GDNF) gene in pre-clinical animal efficacy models of Parkinson s Disease.

### ***Stroke***

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. When brain cells die during a stroke, abilities controlled by that area of the brain are lost. These abilities can include speech, movement and memory. How a stroke patient is affected depends on where the stroke occurs in the brain and how much the brain is damaged. According to the Centers for Disease Control, and based upon information from the Greater Cincinnati/Northern Kentucky Stroke Study and the National Institute of Neurological Diseases and Stroke, strokes killed approximately 144,000 people in 2005 and is 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 5.8 million stroke survivors are alive today. We are evaluating our ZFP TF activator of the VEGF-A gene in pre-clinical animal efficacy models of strokes.

### ***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, immune system disorders such as X-linked severe combined immunodeficiency (X-linked SCID) and hemophilia

## **CORPORATE RELATIONSHIPS**

We are applying our ZFP technology platform to several commercial applications in which our products provide Sangamo 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 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.

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**Agreement with Dow AgroSciences in Plant Agriculture**

Sangamo scientists and collaborators have shown that ZFP TFs and ZFNs can be used to regulate and modify genes in plants. The ability to regulate gene expression with engineered ZFP TFs may lead to the creation of new plants that increase crop yields, lower production costs and are more resistant to herbicides, pesticides, and plant pathogens, which could permit the development of branded agricultural products with unique nutritional and processing characteristics. In addition, ZFNs may be used to facilitate the efficient and reproducible generation of transgenic plants.

We have an exclusive commercial license agreement with Dow AgroSciences LLC ( DAS ), a wholly owned indirect subsidiary of Dow Chemical Corporation. 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. 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 being recognized ratably over the period from option exercise through December 31, 2009, which reflected the estimated timing over which the ZFP manufacturing technology transfer was anticipated to occur, as well as the period over which Sangamo expected to be performing additional research services for DAS. However, in December 2009, the reagent manufacturing services for DAS were extended through December 31, 2010. Accordingly, the remaining unrecognized portion of the commercial license fee, research milestones and initial cash payment totaling \$222,000 will be recognized through December 31, 2010, which is our best estimate as of December 31, 2009 of our performance obligation period with DAS.

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Revenues under the agreement were \$8.8 million, \$7.4 million, and \$5.3 million during 2009, 2008, and 2007, respectively. Related costs and expenses incurred under the agreement were \$639,000, \$391,000 and \$467,000 during 2009, 2008 and 2007, respectively.

**Agreement with Sigma-Aldrich Corporation in Laboratory Research Reagents**

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 have agreed to conduct a three-year research program to develop laboratory research reagents using our ZFP technology. In addition, for three years we will assist Sigma in connection with Sigma's efforts to market and sell services employing our technology in the research field. We will transfer the ZFP manufacturing technology to Sigma or to a mutually agreed-upon contract manufacturer upon Sigma's request. Prior to the completion of this transfer, we will be responsible for supplying ZFPs for use by Sigma in performing services in the research field.

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 consists 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 may receive additional research funding of up to \$2.0 million, development milestone payments of up to \$5.0 million, and 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 will receive 50% of any sublicensing revenues in the first two years and 25% of any sublicensing revenues thereafter. 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 is being recognized on a straight-line basis from the effective date of the expanded license through July 2010, which represents the period over which we are 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 \$11.1 million, \$3.3 million and \$1.1 million during 2009, 2008 and 2007, respectively. Royalty revenues under the Sigma license agreement



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were \$332,000, \$388,000 and \$0 during 2009, 2008 and 2007, respectively. Related costs and expenses incurred under the Sigma agreements were \$2.6 million, \$2.2 million and \$316,000 during 2009, 2008 and 2007, respectively.

### **Enabling Technology Programs and Partners**

We began marketing our Enabling Technologies to the pharmaceutical and biotechnology industry in 1998. Our Enabling Technology collaborations have been based upon applying our ZFP TF and ZFN technology and intellectual property in products and areas outside ZFP Therapeutics.

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

The production of pharmaceutical proteins, such as therapeutic antibodies, is an important area of commercial growth. According to a report by the independent business information provider Visiongain, ten years ago, there were only two monoclonal antibody drugs on the world market. Currently there are 21 FDA approved therapies. In 2009, the therapeutic antibody market was worth approximately \$32 billion. 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 \$325,000, \$3.0 million, and \$96,000 in 2009, 2008 and 2007, respectively. Related costs and expenses incurred under the Pfizer agreements were \$0, \$66,000 and \$358,000 in 2009, 2008 and 2007, 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

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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 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 \$517,000, \$389,000 and \$283,000 during 2009, 2008 and 2007, respectively. Related costs and expenses performed under the Genentech agreement were \$195,000, \$147,000 and \$82,000 during 2009, 2008 and 2007, respectively.

There can be no assurance that Genentech will succeed in the development of commercially viable products under these research and license agreements or succeed in achieving any of the specified milestones. To the extent Genentech does not succeed in developing a commercially viable product or if Genentech fails to achieve any of the milestones, our revenues and benefits under these research and license agreements will be limited.

### ***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

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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 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 the Company's achievement of certain milestones associated with the Company's Phase 2 clinical trial (SB-509-601) of SB-509 for the treatment of mild to moderate diabetic neuropathy, JDRF was obligated to pay the Company an aggregate amount of up to \$3.0 million. Through December 31, 2009, we have received \$3.0 million. After the first commercial launch of SB-509 in a major

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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.

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. We are obligated to cover all costs of the Phase 2 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 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 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.

In January 2010, we renewed our partnership with JDRF. Under the amended agreement, JDRF will provide an additional amount of up to \$3.0 million in funding for our Phase 2b trial in diabetic neuropathy (SB-509-901) based on achievement of certain milestones associated with the Phase 2b trial.

Revenues attributable to research and development activities performed under the JDRF partnership were \$500,000, \$1.0 million and \$1.5 million in 2009, 2008 and 2007, respectively. Related costs and expenses incurred during 2009, 2008 and 2007 were \$1.0 million, \$3.9 million and \$4.7 million, respectively.

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

In January 2007, Sangamo announced 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 has paid the Company \$950,000 over a period of two years and through December 31, 2008 we have received the total funds due from MJFF.

Revenues attributable to research and development performed under the MJFF partnership were \$0, \$553,000 and \$397,000 during 2009, 2008 and 2007, respectively. Related costs and expenses incurred under the MJFF partnership were \$0, \$903,000 and \$397,000 during 2009, 2008 and 2007.

### ***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. Related costs and expenses incurred under the grant were \$133,000 during 2009.

## **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 business. We seek patent protection and licenses that relate to our technology and candidates in our

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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 patent 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, 2010, these patent filings have resulted in 20 issued U.S. patents and 23 granted foreign patents, with 6 currently pending U.S. patent applications and 35 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.

#### ***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.

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### ***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, 2010, we had 81 families of Sangamo-owned or co-owned patent filings, including 56 issued U.S. patents, 158 granted foreign patents, 84 pending U.S. patent applications and 186 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.

In the aggregate, we believe that our licensed patents and patent applications, as well as the issued Sangamo patents and pending Sangamo patent applications, 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, target site arrays, ZFP libraries (see newly issued US7,491,531 and US2007-0009948 for which we have recently received a Notice of Allowance), databases and methods of construction, as well as methods to increase zinc finger binding specificity, linker designs, 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 (see newly issued US7,585,849), modulation of ZFP-regulated gene expression by small molecules, identification of accessible regions within chromatin, regulation of tocopherol synthesis in plants, regulation of endogenous plant genes (see newly issued US7,521,241 and US2007-0065931, for which we have recently received a Notice of Allowance);

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*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 (see US2008-0187523, for which we have recently received a Notice of Allowance), glioblastoma, prostate cancer and pancreatic cancer, regulation of angiogenesis (including newly issued US7,605,149 and US7,560,440), 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 (see newly issued US7,534,775) and methods to regulate the glucocorticoid receptor;

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

*ZFP Enabling Technologies:* Methods for linking genes and phenotypes, identification of genes, analysis of gene regulation, structure and biological function, methods of agricultural biotechnology, methods of altering cellular differentiation state, and methods of introducing exogenous nucleic acids of interest into a safe harbor locus (see application US2008-0299580);

*ZFN Enabling Technologies:* 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, to be patentable, a DNA sequence must be purified, isolated or modified. 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 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 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

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Phase patents, has been revoked as a result of an opposition by a third party. Our licensor, The Johns Hopkins University, appealed the revocation but in April 2007, the European Technical Board of Appeal released its decision dismissing the appeal. As of February 1, 2010, US patent number US6,265,196, licensed to Sangamo from The Johns Hopkins University, was undergoing re-examination. In addition in 2008, US5,792,640, also licensed from Johns Hopkins University, completed a first re-examination process and a re-exam certificate was issued on September 9, 2008. However, a second re-exam proceeding was ordered on November 4, 2008. We do not know what the outcome of these two re-examination processes will be. 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. We believe that total payments under these agreements over the next three years will not exceed \$1.5 million. 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, Enabling Technology and research applications, and in plant agriculture research.

## **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 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. and Pfizer, Inc. as well as from biotechnology companies with expertise and capabilities in small molecule discovery and development such as Exelixis Inc. and Millennium Pharmaceuticals, Inc.

Monoclonal antibody companies and product candidates from certain biotechnology firms such as Amgen Inc., Genentech, Inc., Medarex Inc., Medimmune, Inc. and Facet Biotech Corporation.



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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.

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 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;

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,

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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.

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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 and 2007 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 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 and in February and October 2009, initiated Phase 1 clinical trials of this ZFP Therapeutic in subjects infected with HIV.

We have completed Phase 2 clinical trials (SB-509-601 and SB-509-703) and have another ongoing Phase 2 clinical trial (SB-509-701) and a Phase 2b trial (SB-509-901) in subjects with diabetic neuropathy. Additionally, we have an ongoing 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.

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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 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 \$29.0 million, \$31.2 million, and \$25.6 million, for 2009, 2008 and 2007, 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.

## **EMPLOYEES**

As of February 1, 2010, we had 74 full-time employees, all of whom are located 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 this report.

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**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 and SB-509-703) and have other related Phase 2 trials ongoing for this indication a Phase 2 trial (SB-509-701) and a Phase 2b trial (SB-509-901). We also have initiated 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. In addition, Phase 1 clinical trials of an identical ZFP TF have been carried out in subjects with peripheral artery disease. 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. This trial began enrolling subjects in February 2009 at the University of Pennsylvania. 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 and have initiated this second trial (SB-728-T-902). Both Phase 1 studies are designed primarily to evaluate the safety and tolerability of this ZFP Therapeutic approach. Finally, in January 2010 we announced the successful review by the FDA of an IND for a Phase 1 trial to evaluate a ZFN-based Therapeutic for glioblastoma, a type of brain cancer, at COH. These early studies of a ZFP Therapeutic 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.

*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 50 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.

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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. 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. However, there is no assurance that clinical efficacy of SB-509 can be demonstrated at later stages of testing.

### ***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 and have ongoing Phase 2 and Phase 2b trials of our ZFP Therapeutic for diabetic neuropathy. We have an additional Phase 2 trial of this drug for ALS and have two ongoing Phase 1 trials of a ZFP Therapeutic for HIV/AIDS and a Phase 1 trial for glioblastoma. 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.

### ***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.

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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 timely manner or that we will obtain regulatory approval for any product candidate that we or our collaborators develop. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product and requires the expenditure of substantial resources. Regulatory approval processes outside the United States include all of the risks associated with the FDA approval process. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action or changes in FDA policy during the period of product development, clinical trials and FDA regulatory review.

***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, so 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.



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***Commercialization of our technologies will depend, in part, on strategic partnering with other companies. If we are not able to find strategic partners in the future or our strategic 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 strategic 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 strategic partners because we need to effectively market the benefits of our technology to these future collaborators and strategic partners, which use the time and efforts of research and development personnel and our management. Further, each collaboration or strategic partnering arrangement will involve the negotiation of terms that may be unique to each collaborator or strategic partner. These business development efforts may not result in a collaboration or strategic partnership.

The loss of any future strategic 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 strategic 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 strategic partnering agreements we would expect to receive revenue for the research and development of a ZFP Therapeutic product and based on achievement of specific milestones. Achieving these milestones will depend, in part, on the efforts of our strategic partner as well as our own. If we, or any strategic partner, fail to meet specific milestones, then the strategic partnership may be terminated, which could decrease 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 significantly increased the emphasis and focus of our research and development activities on ZFP Therapeutics. This change may increase 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 the Company and in which the Company retains 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 2010 as we continue to prosecute our Phase 1 and Phase 2

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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 strategic partnering agreements and negatively impact our relationship with existing collaborators and strategic 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.

***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.

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

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

***Even if our product development efforts are successful and even if the requisite regulatory approvals are obtained, our 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;



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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.

**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;

antisense; and

siRNA and microRNA approaches

For our Enabling Technology Applications:

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

*For target validation:* antisense, siRNA;

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*For plant agriculture:* recombination approaches, mutagenesis approaches, meganucleases, 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.

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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.***

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 therapeutic approach as well as to help scientists better understand the role of genes in disease, 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 events in the field of gene therapy may negatively impact regulatory approval or public perception of 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 in the future, and these laws could reduce our partner's ability to sell these 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

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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.

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

*We anticipate continuing to incur operating losses for the next several years. If material losses continue for a significant period, we may be unable to continue our operations.*

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. In October 2009, we completed an underwritten public offering of 3,000,000 shares of our common stock at a public offering price of \$7.20 per share resulting in net proceeds to us of approximately \$20.9 million. Also in October 2009, we entered into an expansion of our license agreement with Sigma-Aldrich Corporation (Sigma) and a related stock purchase agreement under which we sold to Sigma 636,133 shares of our common stock valued at \$4.9 million. In July 2007, we completed a registered direct offering to institutional investors for a total of 3,278,689 shares of common stock, at a price of \$9.15 per share, resulting in net proceeds to us of \$28.0 million. Also in July 2007, we entered into a license agreement and a related stock purchase agreement with Sigma under which we sold to Sigma 1.0 million shares of Sangamo's common stock valued at \$8.55 million. In June 2006, in an underwritten public offering and pursuant to an effective registration statement, we sold 3,100,000 shares of common stock at a public offering price of \$6.75 per share, resulting in net proceeds of approximately \$20.2 million. In November 2005, we completed a registered direct offering to institutional and strategic investors for a total of 5,080,000 shares of common stock at a price of \$3.85 per share to the investors, resulting in net proceeds to Sangamo of approximately \$18.2 million. To date, we have generated all other funding from revenues derived from strategic partnering agreements, Enabling Technology collaborations, federal government research grants and grants awarded by research foundations. As of December 31, 2009, we had an accumulated deficit of \$192.6 million. Losses will increase 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 not be able to sustain 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

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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 2011, we may need to seek additional sources of capital through equity or debt financing. In the past year, 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 do not know 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 \$100 million per product. We cannot be certain that we will be able to obtain financing on terms acceptable to us, or at all. If adequate funds are not available, our business and our ability to develop our technology and ZFP Therapeutic products would be harmed.

*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 2009, 2008 and 2007 were \$18.6 million, \$24.3 million and \$21.5 million, respectively. To date, our revenues have been generated from strategic partners, Enabling Technology collaborations, 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 2 clinical trials 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;

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 competitors in the future. Our collaborators or strategic partners could develop competing products, preclude us from entering into





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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.

*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

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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 has paid us a total of \$3.0 million through June 30, 2009. We are obligated to cover the costs of the Phase 2 trial that are 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 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

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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;

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

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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.

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

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

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

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

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

We are a small company with 74 full-time employees as of February 1, 2010, 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, 2009, our common stock price ranged from a low of \$5.04 to high of \$8.09. During the past two years, our common stock price has fluctuated significantly, ranging from a low of \$2.72 to a high of \$9.03 during the year ended December 31, 2009, and a low of \$1.95 to a high of \$13.65 during the year ended December 31, 2008. 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

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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;

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 over the ten-day trading period prior to February 1, 2010 was 266,950 shares per day. 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



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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.

### ***Insiders have influence over Sangamo and could delay or prevent a change in corporate control.***

The interest of management could conflict with the interest of our other stockholders. Our executive officers and directors beneficially own, in the aggregate, approximately 9% of our outstanding common stock as of December 31, 2009. As a result, these stockholders, if they choose to act together, may have a material impact on all matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions. This could have the effect of delaying or preventing a change of control of Sangamo, which in turn could reduce the market price of our stock.

### **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 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**

|                              | Price    |         |
|------------------------------|----------|---------|
|                              | High     | Low     |
| 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 |
| Year ended December 31, 2008 |          |         |
| First Quarter                | \$ 13.37 | \$ 8.83 |
| Second Quarter               | \$ 13.65 | \$ 8.77 |
| Third Quarter                | \$ 11.52 | \$ 6.91 |
| Fourth Quarter               | \$ 8.04  | \$ 1.95 |

**Holdings**

As of February 1, 2010, there were approximately 83 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 and other financial institutions.

**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.

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**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**

|  | Year Ended December 31, |             |             |             |             |
|--|-------------------------|-------------|-------------|-------------|-------------|
|  | 2009                    | 2008        | 2007        | 2006        | 2005        |
| (In thousands, except per share data)                                |                         |             |             |             |             |
| <b>Statement of Operations Data:</b>                                 |                         |             |             |             |             |
| Total revenues   | \$ 22,187               | \$ 16,186   | \$ 9,098    | \$ 7,885    | \$ 2,484    |
| Operating expenses:  |                         |             |             |             |             |
| Research and development   | 28,984                  | 31,229      | 25,559      | 21,527      | 10,909      |
| General and administrative   | 12,605                  | 10,332      | 8,310       | 7,087       | 5,323       |
| Total operating expenses   | 41,589                  | 41,561      | 33,869      | 28,614      | 16,232      |
| Loss from operations   | (19,402)                | (25,375)    | (24,771)    | (20,729)    | (13,748)    |
| Interest income, net   | 547                     | 2,231       | 3,217       | 2,411       | 850         |
| Other (expense)/income   | 268                     | (1,158)     | 74          | 454         | (395)       |
| Net loss   | \$ (18,587)             | \$ (24,302) | \$ (21,480) | \$ (17,864) | \$ (13,293) |
| Basic and diluted net loss per common share                          | \$ (0.44)               | \$ (0.60)   | \$ (0.58)   | \$ (0.55)   | \$ (0.51)   |
| Shares used in computing basic and diluted net loss per common share | 42,048                  | 40,825      | 37,355      | 32,502      | 25,855      |

|  | As of December 31, |           |           |           |           |
|--|--------------------|-----------|-----------|-----------|-----------|
|  | 2009               | 2008      | 2007      | 2006      | 2005      |
| (In thousands)   |                    |           |           |           |           |
| <b>Balance Sheet Data:</b>   |                    |           |           |           |           |
| Cash, cash equivalents, marketable securities, and interest receivable | \$ 85,281          | \$ 65,025 | \$ 81,412 | \$ 53,975 | \$ 47,174 |
| Working capital  | 70,116             | 54,221    | 72,437    | 49,856    | 41,668    |
| Total assets   | 87,439             | 67,850    | 83,900    | 55,780    | 48,983    |
| Accumulated deficit  | (192,641)          | (174,054) | (149,752) | (128,272) | (110,408) |
| Total stockholders' equity   | 71,782             | 55,396    | 72,122    | 48,705    | 37,814    |

**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.



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### **Overview**

We were incorporated in June 1995. From our inception through December 31, 2009, 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. As of December 31, 2009, we had an accumulated deficit of \$192.6 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 therapeutic product development and less on our Enabling Technology 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 trial of a ZFP Therapeutic in subjects with diabetic neuropathy and one Phase 2 clinical trial in subjects with ALS. We are also conducting two Phase 1 clinical trials to evaluate a ZFP Therapeutic for the treatment of HIV/AIDS and one Phase 1 study to evaluate a ZFP Therapeutic for the treatment of 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 are 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 and 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 development of ZFP Therapeutics. Additionally, in order to develop ZFP TFs and ZFNs as commercially relevant 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.

### **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

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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.

### ***Share-Based Compensation***

We measure and recognize compensation expense for all share-based payment awards made to our employees and directors, including employee share options and employee share purchases related to the

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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, 2009, 2008 and 2007****Revenues**

|                          | Year Ended December 31,                  |           |          |             |           |          |          |             |
|--------------------------|--|-----------|----------|-------------|-----------|----------|----------|-------------|
|                          | 2009                                     | 2008      | Change   | %<br>Change | 2008      | 2007     | Change   | %<br>Change |
|                          | (In thousands, except percentage values) |           |          |             |           |          |          |             |
| Revenues:                |  |           |          |             |           |          |          |             |
| Collaboration agreements | \$ 21,553                                | \$ 14,492 | \$ 7,061 | 49%         | \$ 14,492 | \$ 6,781 | \$ 7,711 | 114%        |
| Research grants          | 634                                      | 1,694     | (1,060)  | (63)%       | 1,694     | 2,317    | (623)    | (27)%       |
| Total revenues           | \$ 22,187                                | \$ 16,186 | \$ 6,001 | 37%         | \$ 16,186 | \$ 9,098 | \$ 7,088 | 78%         |

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

Revenues from our corporate collaboration and strategic partnering agreements were \$21.6 million in 2009, compared to \$14.5 million in 2008 and \$6.8 million in 2007. 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. ( Pfizer ). The increase in 2008 from 2007 was attributable to increased revenues of approximately \$2.9 million in connection with our research and commercial license agreements with Pfizer, increased revenues of \$2.6 million in connection with our laboratory research reagents license agreement with Sigma, increased revenues of \$2.1 million in connection with our research license and commercial option agreement with DAS and increased revenues of \$106,000 in connection with our research and license agreement with Genentech, Inc.

Research grant revenues were \$634,000 in 2009, \$1.7 million in 2008 and \$2.3 million in 2007. The decrease in 2009 from 2008 was primarily attributable to decreased revenues of \$500,000 related to our grant with the Juvenile Diabetes Research Foundation International ( JDRF ) and decreased revenues of \$553,000



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related to our grant with the Michael J. Fox Foundation for Parkinson's Research ( MJFF ). The decrease in 2008 from 2007 was primarily attributable to decreased revenues of \$500,000 related to our grant with JDRF, \$318,000 in connection with our Advanced Technology Program ( ATP ) grant awarded by the National Institute of Standards and Technology and \$43,000 related to our Cystic Fibrosis grant awarded by the Cystic Fibrosis Foundation. This was partially offset by increased revenues of \$156,000 related to our grant with MJFF and \$82,000 related to our grant with the Defense Advanced Research Projects Agency.

**Operating Expenses**

|                            | Year Ended December 31,                  |           |            |             |           |           |          |             |
|----------------------------|--|-----------|------------|-------------|-----------|-----------|----------|-------------|
|                            | 2009                                     | 2008      | Change     | %<br>Change | 2008      | 2007      | Change   | %<br>Change |
|                            | (In thousands, except percentage values) |           |            |             |           |           |          |             |
| Operating expenses:        |  |           |            |             |           |           |          |             |
| Research and development   | \$ 28,984                                | \$ 31,229 | \$ (2,245) | (7)%        | \$ 31,229 | \$ 25,559 | \$ 5,670 | 22%         |
| General and administrative | 12,605                                   | 10,332    | 2,273      | 22%         | 10,332    | 8,310     | 2,022    | 24%         |
| Total operating expenses   | \$ 41,589                                | \$ 41,561 | \$ 28      | 0%          | \$ 41,561 | \$ 33,869 | \$ 7,692 | 23%         |

**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 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 \$29.0 million in 2009, compared to \$31.2 million in 2008 and \$25.6 million in 2007. 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 primarily by increased salaries and personnel related expenses 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. The increase of \$5.7 million in research and development expenses in 2008 from 2007 was primarily due to increased pre-clinical and clinical studies and manufacturing expenses of \$3.0 million, primarily associated with our diabetic neuropathy program and increased salaries and personnel related expenses of \$1.4 million, including increased stock-based compensation expenses of \$1.3 million. The increase in stock-based compensation was due to increased grant activity, higher Black-Scholes value per share and lower estimated forfeitures. Consulting expenses increased by \$972,000, primarily in support of our diabetic neuropathy program, and facility expenses increased by \$510,000 primarily due to the Company leasing additional space. This was partially offset by decreased expenses related to licensing and external research of \$271,000.

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.

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

| <b>Program</b>   | <b>Collaborator</b>       | <b>Stage</b>       |
|--|---------------------------|--------------------|
| ZFP technology to modify the genomes or alter the protein expression of plant cells, plants, or plant cell cultures  | Dow AgroSciences          | Research/Marketing |
| 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 |

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

| <b>Program</b>   | <b>Stage</b>                  |
|--|-------------------------------|
| 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.

| <b>Programs</b>                         | <b>Year Ended</b>    |             |
|---|----------------------|-------------|
|   | <b>December 31,</b>  |             |
|   | <b>(In millions)</b> |             |
|   | <b>2009</b>          | <b>2008</b> |
| SB-509                                  | \$ 9,677             | \$ 13,202   |
| SB-728-T                                | 4,705                | 3,985       |
| Other research and development projects | 14,602               | 14,042      |
| Total research and development expenses | \$ 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, 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.

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General and administrative expenses were \$12.6 million in 2009, \$10.3 million in 2008 and \$8.3 million in 2007. The increase of \$2.3 million in 2009 from 2008 was primarily due to increased salaries and personnel related expenses of \$1.8 million, including 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. The increase of \$2.0 million in 2008 from 2007 was primarily due to increased salaries and personnel related expenses of \$2.3 million, including increased stock-based compensation of \$2.0 million, partially offset by decreased expenses related to professional services of \$214,000. The increase in stock-based compensation was due to increased grant activity, higher Black-Scholes value per share and lower estimated forfeitures.

**Interest income, net**

|                      | Year Ended December 31,                  |          |            |             |          |          |            |             |
|----------------------|--|----------|------------|-------------|----------|----------|------------|-------------|
|                      | 2009                                     | 2008     | Change     | %<br>Change | 2008     | 2007     | Change     | %<br>Change |
|                      | (In thousands, except percentage values) |          |            |             |          |          |            |             |
| Interest income, net | \$ 547                                   | \$ 2,231 | \$ (1,684) | (75)%       | \$ 2,231 | \$ 3,217 | \$ (1,084) | (31)%       |

Interest income, net was \$547,000 in 2009, compared to \$2.2 million in 2008 and \$3.2 million in 2007. The decrease in 2009 from 2008 was due to lower interest income earned of \$1.7 million due primarily to lower interest rates. The decrease in 2008 from 2007 was primarily due to lower interest income earned of \$1.1 million due to lower average investment balances and lower interest rates.

**Other income/(expense)**

|                        | Year Ended December 31,                  |            |          |             |            |       |            |             |
|------------------------|--|------------|----------|-------------|------------|-------|------------|-------------|
|                        | 2009                                     | 2008       | Change   | %<br>Change | 2008       | 2007  | Change     | %<br>Change |
|                        | (In thousands, except percentage values) |            |          |             |            |       |            |             |
| Other income/(expense) | \$ 268                                   | \$ (1,158) | \$ 1,426 | 1,231%      | \$ (1,158) | \$ 74 | \$ (1,134) | (1,665)%    |

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 income in 2009 compared to the expense in 2008 and the expense in 2008 compared to the income in 2007, are due to fluctuations in the value of the British pound relative to the U.S. dollar.

**Liquidity and Capital Resources**

Since inception, we have financed our operations primarily through the sale of equity securities, payments from corporate collaborators, research grants and financing activities such as a bank line of credit. As of December 31, 2009, we had cash, cash equivalents, investments and interest receivable totaling \$85.3 million.

Net cash used in operating activities was \$6.1 million in 2009, \$17.3 million in 2008 and \$16.1 million in 2007. In all periods, net cash used in operating activities was primarily due to funding of net operating losses. During 2009, the use of cash related to our net operating loss of \$18.6 million was partially offset by net non-cash charges of \$9.1 million and changes in operating assets and liabilities of \$3.4 million. Non-cash charges primarily include \$8.5 million related to stock-based compensation and depreciation and amortization of \$572,000. This was partially offset by the effect of exchange rate changes on cash of \$302,000. The net increase in operating liabilities was primarily comprised of increases in deferred revenues of \$3.6 million and accrued compensation and employee benefits of \$997,000. This was partially offset by decreases in accounts payable and accrued liabilities of \$1.4 million. During 2008, the use of cash related to our net operating loss of \$24.3 million was partially offset by net non-cash charges of \$6.3 million and changes in operating assets and liabilities of

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\$685,000. Non-cash charges include \$5.7 million related to stock-based compensation and depreciation and amortization of \$523,000. This was partially offset by net amortization of premium / discount on marketable securities of \$1.1 million. The net increase in operating liabilities was primarily comprised of increases in deferred revenues of \$1.2 million and accounts payable and accrued liabilities of \$310,000. This was partially offset by decreases in accrued compensation and employee benefits of \$811,000. During 2007, the use of cash related to our net operating loss of \$21.5 million was partially offset by net non-cash charges of \$566,000 and changes in operating assets and liabilities of \$4.8 million. Non-cash charges include \$2.4 million related to stock-based compensation and depreciation and amortization of \$274,000. This was partially offset by net amortization of premium / discount on marketable securities of \$2.1 million. The net increase in operating liabilities was primarily comprised of increases in deferred revenues of \$2.6 million and accounts payable and accrued liabilities of \$1.8 million.

Net cash used in investing activities was \$19.2 million in 2009. Net cash provided by investing activities was \$23.8 million in 2008. Net cash used in investing activities was \$26.6 million in 2007. Cash used in investing activities in 2009 was primarily comprised of purchases of marketable securities of \$79.4 million, partially offset by maturities of marketable securities of \$60.5 million. Cash provided by investing activities in 2008 was primarily comprised of maturities of marketable securities of \$101.4 million and proceeds from sales of marketable securities of \$5.6 million, partially offset by purchases of marketable securities of \$82.5 million and property and equipment of \$739,000. Cash used in investing activities in 2007 was primarily comprised of purchases of marketable securities of \$119.9 million and purchases of property and equipment of \$1.4 million, partially offset by maturities of marketable securities of \$93.3 million and proceeds from sales of marketable securities of \$1.3 million.

Net cash provided by financing activities was \$26.8 million in 2009, \$1.8 million in 2008 and \$42.3 million in 2007. Cash provided by financing activities in 2009 primarily related to issuance of 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, the company 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. Cash provided by financing activities in 2008 was related to proceeds from issuance of common stock related to stock option exercises. In July 2007, the company completed a registered direct offering to institutional and strategic investors for a total of 3,278,689 shares of common stock at a price of \$9.15 per share to the investors, resulting in net proceeds to Sangamo of approximately \$28.0 million. In July 2007, pursuant to a laboratory research reagents license agreement with Sigma, the company issued 1.0 million shares of common stock valued at \$8.55 per share to Sigma, resulting in proceeds of \$8.6 million. All other cash provided by financing activities in 2007 was related to proceeds from issuance of common stock related to stock option exercises.

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, funds received from corporate collaborators, strategic partners and research grants will be sufficient to finance our operations through 2011. We may need to raise additional capital to fund our ZFP Therapeutic development activities. Additional capital may not be available in terms acceptable to us, or at all. If adequate funds are not available, our business and our ability to develop and commercialize our technology and our ZFP Therapeutic products would be harmed.

There is no provision for income taxes because we have incurred losses. As of December 31, 2009, Sangamo had net operating loss carryforwards for federal and state income tax purposes of approximately \$125.3 million and \$112.1 million, respectively. If not utilized, both the net federal and state operating loss carryforwards will expire beginning in 2010. The Company also has federal and state research tax credit carryforwards of \$3.1 million and \$3.3 million, respectively. The federal research credits will begin to expire in the year 2018 and the state research credits have no expiration date. Utilization of the Company's net operating

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loss may be subject to substantial annual limitation 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 before use.

**Contractual Obligations and Commercial Commitments**

As of December 31, 2009 we had contractual obligations and commercial commitments as follows (in thousands):

| Contractual Obligations              | Total           | Payments Due by Period |                 |                 |                      |
|--------------------------------------|-----------------|------------------------|-----------------|-----------------|----------------------|
|                                      |                 | Less Than<br>1 Year    | 1-3<br>Years    | 3-5<br>Years    | More Than<br>5 Years |
| Operating leases                     | \$ 2,788        | \$ 570                 | \$ 1,185        | \$ 1,033        |                      |
| License obligations                  | 2,240           | 448                    | 896             | 896             |                      |
| <b>Total contractual obligations</b> | <b>\$ 5,028</b> | <b>\$ 1,018</b>        | <b>\$ 2,081</b> | <b>\$ 1,929</b> | <b>\$</b>            |

Operating leases consist of base rents for facilities we occupy in Richmond, California. License obligations consist of ongoing license maintenance fees, milestones and royalties due from sales of ZFP TFs and ZFNs.

**Recent Accounting Pronouncements**

In October 2009, the Financial Accounting Standards Board ( FASB ) issued new revenue recognition standards for arrangements with multiple deliverables. The new standards permit entities to initially use management's best estimate of selling price to value individual deliverables when those deliverables do not have Vendor Specific Objective Evidence of fair value or when third-party evidence is not available. Additionally, these new standards modify the manner in which the transaction consideration is allocated across the separately identified deliverables by no longer permitting the residual method of allocating arrangement consideration. 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 are currently evaluating the impact of adopting these new standards on our consolidated financial position, results of operations and cash flows.

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

Our exposure to market risk for changes in interest rates relates primarily to our cash equivalents and investments. The investments are available-for-sale. We do not use derivative financial instruments in our investment portfolio. We attempt to ensure the safety and preservation of our invested funds by limiting default and market risks. Our cash and investments policy emphasizes liquidity and preservation of principal over other portfolio considerations. We select investments that maximize interest income to the extent possible within these guidelines. We invest excess cash in securities with different maturities to match projected cash needs and limit concentration of credit risk by diversifying our investments among a variety of high credit-quality issuers. We mitigate default risk by investing in only investment-grade securities. The portfolio includes marketable securities with active secondary or resale markets to ensure portfolio liquidity. All investments have a fixed interest rate and are carried at market value, which approximates cost.

We carry our investments of debt securities at fair value, estimated as the amount at which an asset or liability could be bought or sold in a current transaction between willing parties. A combination of factors in the housing and mortgage markets, including rising delinquency and default rates on subprime mortgages and declining home prices, has led to increases in actual and expected credit losses for residential mortgage-backed securities and mortgage loans. Since 2007, the credit markets have been reacting to these changing factors and the prices of many securities backed by subprime mortgages have been declining. Lower volumes of transactions in certain types of collateralized securities might make it more difficult to obtain relevant market information to

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estimate the fair value of these financial instruments. In accordance with our investment policy, we diversify our credit risk and invest in debt securities with high credit quality. Substantially all our investments held as of December 31, 2009 are actively traded and our estimate of fair value is based upon quoted market prices. We have not recorded losses on our securities due to credit or liquidity issues. We will continue to monitor our credit risks and evaluate the potential need for impairment charges related to credit risks in future periods.

As of December 31, 2009 all of our assets and liabilities are valued in U.S. dollars and fluctuations in global currencies do not present a significant market risk.

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**ITEM 8 FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

**SANGAMO BIOSCIENCES, INC.**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

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**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, 2009 and 2008, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2009. 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, 2009 and 2008, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2009, 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, 2009, 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 March 5, 2010 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Palo Alto, California

March 5, 2010



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

|   | <b>December 31,</b>                                       |             |
|---|---|-------------|
|   | <b>2009</b>   | <b>2008</b> |
|   | <b>(In thousands, except share and per share amounts)</b> |             |
| <b>ASSETS</b>   |   |             |
| Current assets:   |   |             |
| Cash and cash equivalents   | \$ 21,159   | \$ 19,409   |
| Marketable securities   | 63,781  | 45,422      |
| Interest receivable   | 341   | 194         |
| Accounts receivable   | 69  | 500         |
| Prepaid expenses  | 423   | 327         |
| <br>  |   |             |
| Total current assets  | 85,773  | 65,852      |
| Property and equipment, net   | 1,654   | 1,986       |
| Other assets  | 12  | 12          |
| <br>  |   |             |
| Total assets  | \$ 87,439   | \$ 67,850   |
| <b>LIABILITIES AND STOCKHOLDERS EQUITY</b>  |   |             |
| Current liabilities:  |   |             |
| Accounts payable and accrued liabilities  | \$ 2,458  | \$ 3,848    |
| Accrued compensation and employee benefits  | 1,385   | 388         |
| Deferred revenue  | 11,814  | 7,395       |
| <br>  |   |             |
| Total current liabilities   | 15,657  | 11,631      |
| Deferred revenue, non-current portion   |   | 823         |
| <br>  |   |             |
| Total liabilities   | 15,657  | 12,454      |
| <br>  |   |             |
| Commitments and contingencies   |   |             |
| Stockholders' equity:   |   |             |
| Common stock, \$0.01 par value; 80,000,000 shares authorized, 44,994,409 and 41,057,077 shares issued and outstanding at December 31, 2009 and 2008, respectively | 450   | 410         |
| Additional paid-in capital  | 263,955   | 228,764     |
| Accumulated deficit   | (192,641)   | (174,054)   |
| Accumulated other comprehensive income  | 18  | 276         |
| <br>  |   |             |
| Total stockholders' equity  | 71,782  | 55,396      |
| <br>  |   |             |
| Total liabilities and stockholders' equity  | \$ 87,439   | \$ 67,850   |

See accompanying Notes to Consolidated Financial Statements.

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

|   | Year Ended December 31,                  |                    |                    |
|---|--|--------------------|--------------------|
|   | 2009                                     | 2008               | 2007               |
|   | (In thousands, except per share amounts) |                    |                    |
| <b>Revenues:</b>  |  |                    |                    |
| Collaboration agreements                                      | \$ 21,553                                | \$ 14,492          | \$ 6,781           |
| Research grants   | 634                                      | 1,694              | 2,317              |
| <b>Total revenues</b>   | <b>22,187</b>                            | <b>16,186</b>      | <b>9,098</b>       |
| <b>Operating expenses:</b>                                    |  |                    |                    |
| Research and development                                      | 28,984                                   | 31,229             | 25,559             |
| General and administrative                                    | 12,605                                   | 10,332             | 8,310              |
| <b>Total operating expenses</b>                               | <b>41,589</b>                            | <b>41,561</b>      | <b>33,869</b>      |
| <b>Loss from operations</b>                                   | <b>(19,402)</b>                          | <b>(25,375)</b>    | <b>(24,771)</b>    |
| Interest income, net  | 547                                      | 2,231              | 3,217              |
| Other income/(expense)  | 268                                      | (1,158)            | 74                 |
| <b>Net loss</b>   | <b>\$ (18,587)</b>                       | <b>\$ (24,302)</b> | <b>\$ (21,480)</b> |
| <b>Basic and diluted net loss per share</b>                   | <b>\$ (0.44)</b>                         | <b>\$ (0.60)</b>   | <b>\$ (0.58)</b>   |
| Shares used in computing basic and diluted net loss per share | 42,048                                   | 40,825             | 37,355             |

See accompanying Notes to Consolidated Financial Statements.

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

|   | Common Stock |        | Additional<br>Paid-in<br>Capital | Accumulated<br>Deficit | Accumulated<br>Other<br>Comprehensive<br>Income | Total<br>Stockholders<br>Equity |
|---|--------------|--------|----------------------------------|------------------------|---|---------------------------------|
|   | Shares       | Amount |                                  |                        |   |                                 |
| Balances at December 31, 2006   | 35,045,398   | 350    | 176,513                          | (128,272)              | 114   | 48,705                          |
| Issuance of common stock in connection with registered direct offering and upon exercise of stock options | 4,160,243    | 42     | 33,204                           |                        |   | 33,246                          |
| Issuance of common stock in connection with license agreement   | 1,000,000    | 10     | 8,540                            |                        |   | 8,550                           |
| Issuance of common stock under employee stock purchase plan   | 109,727      | 1      | 482                              |                        |   | 483                             |
| Stock-based compensation  |              |        | 2,437                            |                        |   | 2,437                           |
| Comprehensive loss:   |              |        |                                  |                        |   |                                 |
| Increase in unrealized gain on marketable securities  |              |        |                                  |                        | 181   | 181                             |
| Net loss  |              |        |                                  | (21,480)               |   | (21,480)                        |
| Comprehensive loss  |              |        |                                  |                        |   | (21,299)                        |
| 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                       |

See accompanying Notes to Consolidated Financial Statements.



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

|   | Year Ended December 31, |             |             |
|---|-------------------------|-------------|-------------|
|   | 2009                    | 2008        | 2007        |
|   | (In thousands)          |             |             |
| <b>Operating activities:</b>  |                         |             |             |
| Net loss  | \$ (18,587)             | \$ (24,302) | \$ (21,480) |
| Adjustments to reconcile net loss to net cash used in operating activities: |                         |             |             |
| Depreciation and amortization   | 572                     | 523         | 274         |
| Amortization of premium / discount on marketable securities                 | 288                     | (1,059)     | (2,145)     |
| Stock-based compensation  | 8,467                   | 5,748       | 2,437       |
| 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   | (147)                   | 130         | (269)       |
| Accounts receivable   | 431                     | (291)       | 278         |
| Prepaid expenses and other assets   | (96)                    | 170         | 134         |
| Accounts payable and accrued liabilities                                    | (1,390)                 | 310         | 1,812       |
| Accrued compensation and employee benefits                                  | 997                     | (811)       | 321         |
| Deferred revenue  | 3,596                   | 1,177       | 2,570       |
| Net cash used in operating activities                                       | (6,137)                 | (17,345)    | (16,068)    |
| <b>Investing activities:</b>  |                         |             |             |
| Purchases of marketable securities  | (79,406)                | (82,485)    | (119,855)   |
| Maturities of marketable securities   | 60,500                  | 101,375     | 93,272      |
| Proceeds from sales of marketable securities                                |                         | 5,639       | 1,314       |
| Purchases of property and equipment   | (272)                   | (739)       | (1,369)     |
| Net cash provided by / (used in) investing activities                       | (19,178)                | 23,790      | (26,638)    |
| <b>Financing activities:</b>  |                         |             |             |
| Proceeds from issuance of common stock                                      | 21,846                  | 1,847       | 33,729      |
| Issuance of common stock in connection with license agreements              | 4,917                   |             | 8,550       |
| Net cash provided by financing activities                                   | 26,763                  | 1,847       | 42,279      |
| Effect of exchange rate changes on cash                                     | 302                     | (1,158)     |             |
| Net increase / (decrease) in cash and cash equivalents                      | 1,750                   | 7,134       | (427)       |
| Cash and cash equivalents, beginning of period                              | 19,409                  | 12,275      | 12,702      |
| Cash and cash equivalents, end of period                                    | \$ 21,159               | \$ 19,409   | \$ 12,275   |

See accompanying Notes to Consolidated Financial Statements.

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**SANGAMO BIOSCIENCES, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

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

***Sangamo and Basis of Presentation***

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 Enabling Technology 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, 2009, along with expected revenues from Enabling Technology collaborations and strategic partnerships, will be adequate to fund its operations through 2011. 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, Enabling Technology agreements and 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.

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 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 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 of \$21.2 million and \$19.4 million at December 31, 2009 and 2008, respectively, consist of deposits in money market investment accounts, government sponsored entity 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.

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In April 2009, the FASB issued new guidance on the recognition of other-than-temporary impairment. The guidance also provides some new disclosure requirements as well as extends certain annual disclosure requirements to interim periods. The guidance is effective for interim periods and fiscal years ending after June 15, 2009, and on April 1, 2009 we adopted the guidance on a prospective basis for available-for-sale securities. 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, 2009, 2008 and 2007 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.

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

|   | Amortized<br>Cost | Gross<br>Unrealized<br>Gains | Gross<br>Unrealized<br>(Losses) | Estimated<br>Fair Value |
|---|-------------------|------------------------------|---------------------------------|-------------------------|
| <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                   |
| <b>Total</b>  | <b>20,213</b>     |                              | <b>(1)</b>                      | <b>20,212</b>           |
| 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                  |
| <b>Total</b>  | <b>63,764</b>     | <b>23</b>                    | <b>(6)</b>                      | <b>63,781</b>           |
| <b>Total cash equivalents and marketable securities</b> | <b>\$ 83,977</b>  | <b>\$ 23</b>                 | <b>\$ (7)</b>                   | <b>\$ 83,993</b>        |
| <b>December 31, 2008</b>                                |                   |                              |                                 |                         |
| Cash equivalents:                                       |                   |                              |                                 |                         |
| U.S. government sponsored entity debt securities        | \$ 12,123         | \$                           | \$                              | \$ 12,123               |
| <b>Total</b>  | <b>12,123</b>     |                              |                                 | <b>12,123</b>           |
| Marketable securities:                                  |                   |                              |                                 |                         |
| U.S. government sponsored entity debt securities        | 24,471            | 153                          |                                 | 24,624                  |
| Corporate debt securities                               | 20,675            | 123                          |                                 | 20,798                  |
| <b>Total</b>  | <b>45,146</b>     | <b>276</b>                   |                                 | <b>45,422</b>           |
| <b>Total cash equivalents and marketable securities</b> | <b>\$ 57,269</b>  | <b>\$ 276</b>                | <b>\$</b>                       | <b>\$ 57,545</b>        |

**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**

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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



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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).

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. In 2007, we recorded a foreign currency remeasurement gain of \$74,000.

### ***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, 2009, 2008 and 2007 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 collectibility 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 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, 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.

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For 2009, revenues related to Sigma and DAS represented 50% and 40%, respectively, of total revenues. For 2008, revenues related to DAS, Sigma and Pfizer represented 46%, 20%, and 19%, respectively, of total revenues. For 2007, revenues related to DAS, JDRF and Sigma represented 59%, 16% and 12%, respectively, of total revenues. The Company's accounts receivable are derived from net revenues to customers located in the United States.

### ***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.

### ***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 ), 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 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.

On January 1, 2007, we adopted new standards related to how tax benefits for uncertain tax positions are to be recognized, measured, and derecognized in the financial statements. These standards also specify how liabilities for uncertain tax positions should be classified on the balance sheet. As a result of adoption, the Company did not recognize any adjustment to the liability for uncertain tax positions and therefore did not record any adjustment to the beginning balance of retained earnings on the consolidated balance sheet. As of the date of adoption, the Company recorded a \$1.1 million reduction to deferred tax assets and the associated valuation allowance for unrecognized tax benefits. If the unrecognized tax benefits were recognized, there would be no impact on the effective tax rate.

**Table of Contents****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 1,737,625, 1,140,328 and 1,437,838 shares for 2009, 2008 and 2007, respectively, related to outstanding options. The following table presents the calculation of basic and diluted net loss per common share (in thousands, except per share data):

|  | Year Ended December 31, |             |             |
|--|-------------------------|-------------|-------------|
|  | 2009                    | 2008        | 2007        |
| Net loss   | \$ (18,587)             | \$ (24,302) | \$ (21,480) |
| Weighted-average shares of common stock outstanding used in computing basic and diluted net loss per share | 42,048                  | 40,825      | 37,355      |
| Basic and diluted net loss per share   | \$ (0.44)               | \$ (0.60)   | \$ (0.58)   |

**Segments**

The Company operated in one segment. Management uses one measurement of profitability and does not segregate its business for internal reporting. As of December 31, 2009 and 2008, 100% of all long-lived assets were maintained in the U.S. Moreover, for the years ended December 31, 2009, 2008 and 2007, 100% of revenues and operating expenses were generated and incurred in the U.S.

**Recent Accounting Pronouncements**

Effective July 1, 2009, the FASB Accounting Standards Codification (FASB ASC or the Codification) is the single source of authoritative accounting principles recognized by the FASB to be applied by non-governmental entities in the preparation of financial statements in conformity with GAAP. The adoption of the FASB ASC beginning with the quarter ended September 30, 2009 does not materially impact the Company's financial statements; however, references to accounting literature within the notes to the consolidated financial statements have been revised to conform to the Codification.

In May 2009, the FASB required the disclosure of the date through which an entity has evaluated subsequent events and the basis for that date. The basis for the date through which the entity has evaluated subsequent events represents the date the financial statements were issued or were available to be issued. This statement is effective for the interim or annual financial periods ending after June 15, 2009 and should be applied prospectively. The adoption of the new guidance on April 1, 2009 did not have an impact on the Company's financial position and results of operations.

**Table of Contents****NOTE 2 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, |                 |                 |
|---|-------------------------|-----------------|-----------------|
|   | 2009                    | 2008            | 2007            |
| Research and development                      | \$ 4,115                | \$ 2,718        | \$ 1,449        |
| General and administrative                    | 4,352                   | 3,030           | 988             |
| <b>Total stock-based compensation expense</b> | <b>\$ 8,467</b>         | <b>\$ 5,748</b> | <b>\$ 2,437</b> |

As of December 31, 2009, total compensation cost related to nonvested stock options to be recognized in future periods was \$13.4 million, which is expected to be expensed over a weighted-average period of 2.96 years. There was no capitalized stock-based employee compensation cost as of December 31, 2009.

**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. For 2009 and 2008, 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. During 2007, the Company did not believe it was able to rely on its historical exercise and post-vested termination activity for estimating its expected term. Therefore, during 2007 the Company opted to use the simplified method for estimating its expected term equal to the midpoint between the vesting period and the contractual term.

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

|                                  | Year Ended December 31, |               |           |
|----------------------------------|-------------------------|---------------|-----------|
|                                  | 2009                    | 2008          | 2007      |
| Risk-free interest rate          | 2.0-2.2%                | 2.4-3.3%      | 3.5-5.0%  |
| Expected life of option          | 5.31-5.38 yrs           | 5.10-5.20 yrs | 6.25 yrs  |
| Expected dividend yield of stock | 0%                      | 0%            | 0%        |
| Expected volatility              | 0.83                    | 0.61-0.83     | 0.90-0.93 |

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

|                                  | Year Ended December 31, |             |             |
|----------------------------------|-------------------------|-------------|-------------|
|                                  | 2009                    | 2008        | 2007        |
| Risk-free interest rate          | 0.2-0.9%                | 1.1-5.1%    | 3.6-5.1%    |
| 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              | 0.63-1.97               | 0.51-0.73   | 0.46-0.77   |

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**NOTE 3 MAJOR CUSTOMERS, PARTNERSHIPS AND STRATEGIC ALLIANCES**

**Agreement with Dow AgroSciences in Plant Agriculture**

We have an exclusive commercial license agreement with Dow AgroSciences LLC ( DAS ), a wholly owned indirect subsidiary of Dow Chemical Corporation. Under this agreement, we are providing DAS with access to the Company's proprietary zinc finger DNA-binding protein (ZFP) technology and the exclusive right to use the Company's 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 transcription factors (ZFP TFs) or zinc-finger nuclease (ZFN) 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. The Company's 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 the Company's ZFP technology, including agricultural crops, industrial products and plant-derived biopharmaceuticals. The exercise of the option triggered a one-time commercial license fee of \$6.0 million, payment of the remaining \$2.3 million of the previously agreed \$4.0 million in research milestones, development and commercialization milestone payments for each product, and royalties on sales of products.

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. 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 Sangamo's 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, Sangamo's actual sublicense fees over the term of the agreement could be lower than \$25.3 million. In addition, each party may terminate the agreement upon an uncured material breach of the agreement by the other party. In the event of any termination of the agreement, all rights to use Sangamo's ZFP technology will revert to us, and DAS will no longer be permitted to practice Sangamo's ZFP technology or to develop or, except in limited circumstances, commercialize any products derived from Sangamo's 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 being recognized ratably over the period from option exercise through December 31, 2009, which reflected the estimated timing over which the ZFP manufacturing technology transfer will occur, as well as the period over which Sangamo will be performing additional research services for DAS. However, in December 2009, the reagent manufacturing services for DAS were extended through December 31, 2010. Accordingly, the remaining unrecognized portion of the commercial license fee, research milestones and initial cash payment totaling \$222,000 will be recognized through December 31, 2010, which is the Company's best estimate as of December 31, 2009 of the Company's performance obligation period with DAS.

Revenues under the agreement were \$8.8 million, \$7.4 million and \$5.3 million during 2009, 2008 and 2007, respectively. Related costs and expenses incurred under the agreement were \$639,000, \$391,000 and \$467,000 during 2009, 2008 and 2007, respectively.

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**Agreement with Sigma-Aldrich Corporation in Laboratory Research Reagents**

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 the Company's 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 DAS. Under the agreement, Sangamo and Sigma have agreed to conduct a three-year research program to develop laboratory research reagents using the Company's ZFP technology. In addition, for three years we will assist Sigma in connection with Sigma's efforts to market and sell services employing the Company's technology in the research field. We will transfer the ZFP manufacturing technology to Sigma or to a mutually agreed-upon contract manufacturer upon Sigma's request. Prior to the completion of this transfer, we will be responsible for supplying ZFPs for use by Sigma in performing services in the research field.

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. There were three components to the \$13.5 million we received: 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 may receive additional research funding of up to \$2.0 million, development milestone payments of up to \$5.0 million, and 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 will receive 50% of any sublicensing revenues in the first two years and 25% of any sublicensing revenues thereafter. We retain the sole right to use and license Sangamo's 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 is being recognized on a straight-line basis from the effective date of the expanded license through July 2010, which represents the period over which we have a remaining performance obligation with Sigma. Over such period of time Sangamo is 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 Sangamo's ZFP technology will revert to us, and Sigma will no longer be permitted to practice Sangamo's ZFP technology or to develop or, except in limited circumstances, commercialize any products derived from Sangamo's ZFP technology.

Revenues related to the Sigma agreements, excluding royalty revenues, were \$11.1 million, \$3.3 million and \$1.1 million during 2009, 2008 and 2007, respectively. Royalty revenues under the Sigma agreement were \$332,000, \$388,000 and \$0 during 2009, 2008 and 2007, respectively. Related costs and expenses incurred under the Sigma agreement were \$2.6 million, \$2.2 million and \$316,000 during 2009, 2008 and 2007, respectively.

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### **Enabling Technology Collaborations**

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

We have established several research collaborations in this area. Commencing in December 2004, we had a research collaboration agreement with Pfizer to use Sangamo's 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 Sangamo's 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 the license agreement we received a one time payment of \$3.0 million from Pfizer for a fully paid commercial license. We have no further obligations or deliverables under the license agreement.

Revenues attributable to the Pfizer agreements were \$325,000, \$3.0 million and \$96,000 during 2009, 2008 and 2007, respectively. Related costs and expenses incurred under the Pfizer agreements were \$0, \$66,000 and \$358,000 during 2009, 2008 and 2007, respectively.

In April 2007, we established a research and license agreement with Genentech, Inc. Under the agreement with Genentech, we are developing ZFNs capable of making targeted modifications to the genome of Genentech cell lines to generate cell lines with novel characteristics for protein pharmaceutical production purposes. Genentech paid an upfront fee of \$400,000 which was recognized ratably over the two year contract term. 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 \$5,400,000 upon achievement of specified milestones relating to the development and commercialization of such products. The agreement was expanded to include further ZFNs in February 2008. Under the expanded agreement, we may directly offer the ZFN-related services to Genentech and Sigma will in return receive a share of certain payments made to us by Genentech. Revenues recognized under the expanded agreement, net of payments made to Sigma, are included in royalty revenues attributable to the Sigma agreement, as described above.

Revenues attributable to collaborative research and development performed under the Genentech agreement were \$517,000, \$389,000 and \$283,000 during 2009, 2008 and 2007, respectively. Related research and development costs and expenses incurred under the agreement were \$195,000, \$147,000 and \$82,000 during 2009, 2008 and 2007, respectively.

#### ***Transgenic Animals***

In April 2008, we entered into a license agreement with Open Monoclonal Technology, Inc. ( OMT ). Under the agreement we had the option to grant, at OMT's request, a royalty-bearing, non-exclusive, sublicensable worldwide license for the commercial use of a transgenic animal generated using Sangamo's ZFP technology. In February 2009, we granted the commercial license to OMT and received a one-time license fee of \$250,000, which was recognized as revenue upon receipt. In addition, OMT will pay Sangamo 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.

In July 2008, we entered into a research and license agreement with F. Hoffmann - La Roche Ltd and Hoffmann-La Roche Inc. ( Roche ). During an initial research term, we will provide Roche with access to aspects of Sangamo's proprietary ZFN technology for the targeted modification of a specified gene in a specified

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species in order to generate ZFN-modified cell lines and animals for research purposes. In addition, Roche has an option to receive an exclusive, worldwide license to use such animals in the production of therapeutic and diagnostic products.

In consideration for the rights and licenses granted to Roche, as well as Sangamo's efforts in generating the specific ZFN materials provided to Roche, Roche has paid us an initial research fee, a payment for the delivery of ZFN materials, and will pay ongoing research maintenance fees during the research term. In the event that Roche exercises its option to receive a commercial license, Roche will pay us an option exercise fee, payments upon the achievement of certain clinical development milestones relating to products produced under such commercial license, and royalties on sales of such products. In December 2009, Roche exercised its option, for which Sangamo received a one-time license fee of \$200,000, which was recognized as revenue upon receipt. We have no further obligations associated with the license.

We have an existing agreement with Sigma to develop and commercialize research reagents and services and Sigma has the exclusive right to offer certain services involving Sangamo's ZFN technology that are covered under the research 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 agreements and Sigma will in return receive a share of certain payments made to us. 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 Sangamo's 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 the Company's achievement of certain milestones associated with the Company's Phase 2 clinical trial of SB-509 for the treatment of mild to moderate diabetic neuropathy, JDRF will pay the Company an aggregate amount of up to \$3.0 million. Through December 31, 2009, we have received \$3.0 million. 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.

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. We are obligated to cover all costs of the Phase 2 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 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 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 partnership were \$500,000, \$1.0 million and \$1.5 million during 2009, 2008 and 2007, respectively. Related costs and expenses incurred during 2009, 2008 and 2007 were \$1.0 million, \$3.9 million and \$4.7 million, respectively.

In January 2010, JDRF and Sangamo amended the agreement and JDRF will provide an additional amount of up to \$3.0 million in funding for a Phase 2b trial in diabetic neuropathy (SB-509-901). Initiation of this trial



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was also announced in January 2010. Under the agreement with JDRF and subject to its terms and conditions, including the Company's achievement of certain milestones associated with the Company's Phase 2b clinical trial of SB-509 in diabetic neuropathy, JDRF will pay the Company an aggregate amount of up to \$3.0 million. Revenue will be recognized when such milestones are achieved.

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

In January 2007, Sangamo announced 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 has paid the Company \$950,000 over a period of two years and through December 31, 2008 we have received the total funds due from MJFF.

Revenues attributable to research and development performed under the MJFF partnership were \$0, \$553,000 and \$397,000 during 2009, 2008 and 2007, respectively. Related costs and expenses incurred under the MJFF partnership were \$0, \$903,000 and \$397,000 during 2009, 2008 and 2007, 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. Related costs and expenses incurred under the grant were \$133,000 during 2009.

**NOTE 4 PROPERTY AND EQUIPMENT**

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

|                               | December 31,   |          |
|-------------------------------|----------------|----------|
|                               | 2009           | 2008     |
|                               | (In thousands) |          |
| Laboratory equipment          | \$ 1,757       | \$ 3,426 |
| Furniture and fixtures        | 376            | 1,047    |
| Leasehold improvements        | 925            | 2,547    |
|                               | 3,058          | 7,020    |
| Less accumulated depreciation | (1,404)        | (5,034)  |
|                               | \$ 1,654       | \$ 1,986 |

Depreciation and amortization expense were \$572,000, \$523,000 and \$274,000 for 2009, 2008 and 2007, respectively.

**NOTE 5 FAIR VALUE MEASUREMENT**

In September 2006, the Financial Accounting Standards Board ( FASB ) issued guidance regarding fair value measurement. The guidance established a framework for measuring fair value for financial assets and liabilities as well as for non-financial assets and liabilities that are recognized or disclosed at fair value on a recurring basis in the financial statements. In February 2008, the FASB issued additional guidance which deferred the effective date related to fair value measurements and disclosure for all other non-financial assets and liabilities to fiscal years beginning November 15, 2008.



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We adopted the measurement and disclosure requirements for financial assets and liabilities as well non-financial assets and liabilities that are measured on a recurring basis in the financial statements effective January 1, 2008 on a prospective basis. We adopted measurement and disclosure requirements related to nonfinancial assets and liabilities that are not recognized or disclosed at fair value on a recurring basis effective January 1, 2009 on a prospective basis.

Fair value measurement is classified and disclosed in one of the following three categories:

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).

The following tables summarize the Company's financial instruments as of December 31, 2009 and 2008 (in thousands):

|  | <b>December 31, 2009</b> |                                |                  |                |
|--|--------------------------|--------------------------------|------------------|----------------|
|  | <b>Total</b>             | <b>Fair Value Measurements</b> |                  | <b>Level 3</b> |
|  |                          | <b>Level 1</b>                 | <b>Level 2</b>   |                |
| <b>Assets:</b>                                   |                          |                                |                  |                |
| <b>Marketable securities:</b>                    |                          |                                |                  |                |
| 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>\$</b>                      | <b>\$ 63,781</b> | <b>\$</b>      |

|                               | <b>December 31, 2008</b> |                                |                  |                |
|-------------------------------|--------------------------|--------------------------------|------------------|----------------|
|                               | <b>Total</b>             | <b>Fair Value Measurements</b> |                  | <b>Level 3</b> |
|                               |                          | <b>Level 1</b>                 | <b>Level 2</b>   |                |
| <b>Assets:</b>                |                          |                                |                  |                |
| <b>Marketable securities:</b> |                          |                                |                  |                |
| Commercial paper              | \$ 20,798                | \$                             | \$ 20,798        | \$             |
| Government agencies           | 24,624                   |                                | 24,624           |                |
| <b>Total</b>                  | <b>\$ 45,422</b>         | <b>\$</b>                      | <b>\$ 45,422</b> | <b>\$</b>      |

As of December 31, 2009, all marketable securities had maturities of less than one year.

**NOTE 6 COMMITMENTS**

Sangamo occupies office and laboratory space under operating leases in Richmond, California that expire in August 2014. License obligations consist of non-cancelable ongoing license maintenance fees and royalties due from sales of ZFP TFs. Rent expenses were \$563,000, \$566,000 and \$547,000 during 2009, 2008 and 2007, respectively. Future minimum payments under contractual obligations and commercial commitments at December 31, 2009 consist of the following (in thousands):

| <b>Fiscal Year:</b> | <b>Operating Lease</b> | <b>License Agreements</b> |
|---------------------|------------------------|---------------------------|
| 2010                | \$ 570                 | \$ 448                    |

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|                               |                 |                 |
|-------------------------------|-----------------|-----------------|
| 2011                          | 585             | 448             |
| 2012                          | 600             | 448             |
| 2013                          | 616             | 448             |
| 2014                          | 417             | 448             |
| Thereafter                    |                 |                 |
| <b>Total minimum payments</b> | <b>\$ 2,788</b> | <b>\$ 2,240</b> |

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**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 July 2007, Sangamo completed a registered direct offering to a group of institutional investors, in which Sangamo sold an aggregate of 3,278,689 shares of common stock at a price of \$9.15 per share to such investors, resulting in net proceeds of approximately \$28.0 million.

In July 2007, pursuant to a laboratory research reagents license agreement with Sigma, Sangamo issued 1.0 million shares of common stock valued at a price of \$8.55 per share for aggregate proceeds of \$8.6 million.

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 1.75 million shares per year. During 2009, 2008 and 2007, 1,231,712, 1,209,461 and 1,051,362 additional shares, respectively, were authorized for issuance under the 2004 Plan pursuant to the evergreen increase feature of such plan.

***Employee Stock Purchase Plan***

The Board of Directors adopted the 2000 Employee Stock Purchase Plan in February 2000. Sangamo reserved a total of 400,000 shares of common stock for issuance under the plan. The reserve for shares available under the plan automatically increases on the first trading day of the fiscal year, beginning in 2001, by an amount equal to 1.0 percent of the total number of outstanding shares of the Company's common stock on the last trading day of the immediately preceding fiscal year. 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.

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The weighted-average estimated fair value per share of employee purchase rights during 2009, 2008 and 2007 were \$3.11, \$3.28 and \$2.65, respectively, based upon the assumptions in the Black-Scholes valuation model described in Note 2.

**Stock Option Activity**

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

|  | Number<br>of<br>Shares | Weighted-<br>Average<br>Exercise per<br>Share Price | Weighted Average<br>Remaining<br>Contractual Term |
|--|------------------------|---|---|
| Options outstanding at December 31, 2006 | 4,147,812              | \$ 5.68   | 6.00  |
| Options granted                          | 1,703,500              | \$ 12.43  |   |
| Options exercised                        | (881,554)              | \$ 6.08   |   |
| Options canceled                         | (218,785)              | \$ 6.02   |   |
| Options outstanding at December 31, 2007 | 4,750,973              | \$ 8.01   | 7.15  |
| Options granted                          | 2,471,500              | \$ 4.04   |   |
| Options exercised                        | (623,264)              | \$ 1.94   |   |
| Options canceled                         | (189,124)              | \$ 8.90   |   |
| Options outstanding at December 31, 2008 | 6,410,085              | \$ 7.04   | 8.07  |
| Options granted                          | 1,289,000              | \$ 5.30   |   |
| Options exercised                        | (144,096)              | \$ 3.96   |   |
| Options canceled                         | (85,488)               | \$ 6.41   |   |
| Options outstanding at December 31, 2009 | 7,469,501              | \$ 6.81   | 7.43  |
| Options exercisable at December 31, 2009 | 3,664,145              | \$ 7.55   | 5.84  |

There were no shares subject to Sangamo's right of repurchase as of December 31, 2009. The intrinsic value of options exercised during 2009, 2008 and 2007 were \$462,000, \$6.2 million and \$5.4 million, respectively.

At December 31, 2009, the aggregate intrinsic values of the outstanding and exercisable options were \$8.1 million and \$3.2 million, respectively.

The weighted-average fair value per share of options granted during 2009, 2008 and 2007 was \$3.61, \$2.62 and \$9.57, respectively, based upon the assumption in the Black-Scholes valuation model described in Note 2. The aggregate intrinsic value of shares vested and expected to vest during 2009, 2008 and 2007 was \$7.4 million, \$228,000 and \$24.0 million, respectively.

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The following table summarizes information with respect to stock options outstanding at December 31, 2009:

| Range of Exercise Price | Options Outstanding |  |
|-------------------------|---------------------|--|
|                         | Number of Shares    | Weighted Average Remaining Contractual Life (In Years) |
| \$ 2.04 \$ 3.20         | 98,536              | 6.06   |
| \$ 3.45 \$ 3.45         | 2,160,025           | 8.89   |
| \$ 3.61 \$ 4.92         | 769,157             | 5.49   |
| \$ 4.93 \$ 5.30         | 357,430             | 4.28   |
| \$ 5.35 \$ 5.35         | 1,230,000           | 9.93   |
| \$ 5.56 \$ 6.92         | 772,601             | 5.97   |
| \$ 6.94 \$ 13.40        | 661,816             | 5.08   |
| \$13.98 \$13.98         | 891,436             | 7.92   |
| \$14.00 \$15.68         | 513,500             | 5.33   |
| \$38.00 \$38.00         | 15,000              | 0.63   |
|                         | <b>7,469,501</b>    | <b>7.43</b>  |

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. The fair value of the restricted stock units was estimated based upon the closing sales price of the Company's common stock on the grant date.

As of December 31, 2009, options to purchase 7,469,501 shares and 50,000 restricted stock units were outstanding under the Company's stock option plans, and 2,064,829 shares were reserved for future awards. As of December 31, 2009, we had 2,161,243 shares of common stock reserved for future issuance under the 2000 Employee Stock Purchase Plan.

**NOTE 8 COMPREHENSIVE LOSS**

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

|  | Year Ended December 31, |             |             |
|--|-------------------------|-------------|-------------|
|  | 2009                    | 2008        | 2007        |
| Net loss   | \$ (18,587)             | \$ (24,302) | \$ (21,480) |
| (Decrease) / Increase in unrealized gains on marketable securities | (258)                   | 79          | 181         |
| Other  |                         | (98)        |             |
| Comprehensive loss   | \$ (18,845)             | \$ (24,321) | \$ (21,299) |

Accumulated other comprehensive income at December 31, 2009 and 2008 is \$18,000 and \$276,000, respectively.

**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, |           |
|---|--------------|-----------|
|   | 2009         | 2008      |
| Deferred tax assets:                              |              |           |
| Net operating loss carryforwards                  | \$ 49,157    | \$ 44,384 |
| Research and development tax credit carryforwards | 4,049        | 3,148     |
| Capitalized research                              | 435          | 964       |
| Other   | 2,032        | 3,095     |
|   | 55,673       | 51,591    |
| Valuation allowance                               | (55,673)     | (51,591)  |
| 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 \$4.1 million, \$8.0 million and \$7.5 million for the years ended December 31, 2009, 2008 and 2007, respectively. As of December 31, 2009, Sangamo had net operating loss carryforwards for federal and state income tax purposes of approximately \$125.3 million and \$112.1 million, respectively. If not utilized, both the net federal and state operating loss carryforwards will begin to expire in 2010. The Company also has federal and state research tax credit carryforwards of \$3.1 million and \$3.3 million, respectively. The federal research credits will begin to expire in the year 2018 and the state research credits have no expiration date. Utilization of the Company's net operating loss may be subject to substantial annual limitation 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 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 2009, 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.

The following table summarizes the activity related to the Company's unrecognized tax benefits:

|  | December 31, |          |
|--|--------------|----------|
|  | 2009         | 2008     |
| Beginning balance  | \$ 1,282     | \$ 1,300 |
| Additions based on tax positions related to the current year | 361          | 79       |
| Additions for tax positions of prior years                   |              |          |
| Reductions for tax positions of prior years                  |              | (97)     |
| Ending Balance   | \$ 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,    |                 |
|---|-----------------|-----------------|
|   | 2009            | 2008            |
| Accounts payable                                      | \$ 1,311        | \$ 1,691        |
| Accrued clinical trial expense                        | 723             | 1,256           |
| Accrued research and collaboration expense            |                 | 423             |
| Accrued professional fees                             | 192             | 288             |
| Deferred rent   | 160             | 153             |
| Other   | 72              | 37              |
| <b>Total accounts payable and accrued liabilities</b> | <b>\$ 2,458</b> | <b>\$ 3,848</b> |

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

The following table sets forth certain unaudited quarterly financial data for the eight quarters ended December 31, 2009. 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.

|                    | 2009       |            |            |            | 2008       |            |            |            |
|--------------------|------------|------------|------------|------------|------------|------------|------------|------------|
|                    | Q1         | Q2         | Q3         | Q4         | Q1         | Q2         | Q3         | Q4         |
| Revenues           | \$ 3,157   | \$ 4,726   | \$ 4,063   | \$ 10,241  | \$ 2,765   | \$ 2,842   | \$ 3,745   | \$ 6,834   |
| Expenses           | \$ 10,182  | \$ 9,884   | \$ 8,867   | \$ 12,656  | \$ 11,573  | \$ 10,831  | \$ 10,127  | \$ 9,030   |
| Net loss           | \$ (6,832) | \$ (4,511) | \$ (4,851) | \$ (2,393) | \$ (7,972) | \$ (7,419) | \$ (6,340) | \$ (2,571) |
| Net loss per share | \$ (0.17)  | \$ (0.11)  | \$ (0.12)  | \$ (0.05)  | \$ (0.20)  | \$ (0.18)  | \$ (0.15)  | \$ (0.06)  |

Expenses for the fourth quarter of 2009 include \$1.6 million of additional stock-based compensation relating to true-up of actual versus previously estimated forfeitures pertaining to stock option grants.

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**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, 2009 and as of the date of this filing.

There have been no significant changes in Sangamo's 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, 2009.

**(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, 2009. The effectiveness of our internal control over financial reporting as of December 31, 2009 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report which is included herein.



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**(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, 2009, 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, 2009 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, 2009 and 2008, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2009 and our report dated March 5, 2010 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Palo Alto, California

March 5, 2010

**ITEM 9B OTHER INFORMATION**

None.

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**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 2010 Proxy Statement ), no later than April 30, 2010, and certain information to be included in the 2010 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 code of ethics is incorporated by reference to the information set forth in the sections titled Election of Directors, Management, Section 16(a) Beneficial Ownership Reporting Compliance and Code of Ethics in our 2010 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 2010 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 2010 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 2010 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 2010 Proxy Statement.

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**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 March 5, 2010.

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<br><b>Edward O. Lanphier II</b>     | President, Chief Executive Officer and<br>Director (Principal Executive Officer)                        | March 5, 2010 |
| /s/ H. WARD WOLFF<br><b>H. Ward Wolff</b>                     | Executive Vice President and Chief Financial<br>Officer (Principal Financial and Accounting<br>Officer) | March 5, 2010 |
| /s/ PAUL B. CLEVELAND<br><b>Paul B. Cleveland</b>             | Director  | March 5, 2010 |
| /s/ WILLIAM G. GERBER, M.D.<br><b>William G. Gerber, M.D.</b> | Director  | March 5, 2010 |
| /s/ JOHN W. LARSON<br><b>John W. Larson</b>                   | Director  | March 5, 2010 |
| /s/ STEVEN J. MENTO, PH.D<br><b>Steven J. Mento, Ph.D</b>     | Director  | March 5, 2010 |
| /s/ THOMAS G. WIGGANS<br><b>Thomas G. Wiggans</b>             | Director  | March 5, 2010 |

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**INDEX TO EXHIBITS**

**Exhibit**

| <b>Number</b> | <b>Description of Document</b>   |
|---------------|--|
| 1.1           | Placement Agency Agreement, dated November 10, 2005, among Sangamo, JMP Securities LLC, Piper Jaffray & Co. and Leerink Swann & Company (incorporated by reference to Exhibit 1.1 to the Company's Form 8-K filed on November 14, 2005).   |
| 1.2           | Purchase Agreement, dated June 15, 2006, between Sangamo and Piper Jaffray & Co. (incorporated by reference to Exhibit 1.1 to the Company's Form 8-K filed in June 16, 2006).  |
| 1.3           | 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).  |
| 1.4           | 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 10.8 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed April 5, 2000).  |
| 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 10.12 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed April 4, 2000). |
| 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 10.13 to the Company's Registration Statement on Form S-1/A (Registration No. 333-30134) filed April 4, 2000).                       |
| 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.  |



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**Exhibit**

| <b>Number</b> | <b>Description of Document</b>  |
|---------------|---|
| 10.9          | Amendment No. 2 to License Agreement between Sangamo and the Johns Hopkins University, effective as of July 26, 1999.   |
| 10.10         | Third Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, dated September 1, 1999.   |
| 10.11         | Fourth Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, effective as of February 10, 2000.  |
| 10.12         | Amendment No. 3 to License Agreement between Sangamo and the Johns Hopkins University, effective as of March 10, 2000.  |
| 10.13         | License Agreement by and between The Scripps Research Institute and Sangamo, dated March 14, 2000.  |
| 10.14         | Fifth Amendment to Patent License Agreement between Sangamo and Massachusetts Institute of Technology, effective as of December 15, 2000.   |
| 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.   |
| 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.  |
| 10.21         | First Amendment of Research and Commercial Option License Agreement between Sangamo and Dow AgroSciences LLC, dated November 7, 2006.   |
| 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.   |
| 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.  |
| 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).  |

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| <b>Number</b> | <b>Description of Document</b>   |
|---------------|--|
| 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.  |
| 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.  |
| 10.40         | Third Amendment of Research and Commercial Option License Agreement between Sangamo and Dow AgroSciences LLC, dated February 28, 2009.   |
| 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).          |
| 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).              |

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**Exhibit**

| <b>Number</b> | <b>Description of Document</b>   |
|---------------|--|
| 10.44         | First Amendment to the Research, Development and Commercialization Agreement between Sangamo and Juvenile Diabetes Research Foundation International, dated January 8, 2010. |
| 10.45         | Fourth Amendment of Research and Commercial Option License Agreement between Sangamo and Dow AgroSciences LLC, dated January 8, 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.