

SEATTLE GENETICS INC /WA

Form 424B5

August 10, 2009

Table of Contents

The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been declared effective by the Securities and Exchange Commission. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities, and we are not soliciting offers to buy these securities in any state where the offer or sale is not permitted.

Filed Pursuant to Rule 424(b)(5)

Registration No. 333-159457

SUBJECT TO COMPLETION, DATED AUGUST 10, 2009

PRELIMINARY PROSPECTUS SUPPLEMENT

(To Prospectus dated May 22, 2009)

9,000,000 Shares

Common Stock

We are offering 9,000,000 shares of our common stock, par value \$0.001 per share.

Entities affiliated with one of our directors and principal stockholders, Felix Baker, have indicated interest in purchasing up to 1,538,915 shares of our common stock in this offering at the public offering price. Because these indications of interest are not binding agreements or commitments to purchase, any or all of these entities may elect not to purchase any shares in this offering, or the underwriters may elect not to sell any shares in this offering to any or all of these entities.

Our common stock is listed on The NASDAQ Global Market under the symbol **SGEN**. On August 7, 2009, the last reported sales price of our common stock on The NASDAQ Global Market was \$11.80 per share.

Investing in our common stock involves a high degree of risk. Before buying any shares, you should read carefully the discussion of material risks of investing in our common stock under the headings Risk Factors on page S-11 of this prospectus supplement and in our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2009, which has been filed with the Securities and Exchange Commission and is incorporated by reference in this prospectus supplement and the accompanying prospectus.

	Per Share	Total
Public offering price	\$	\$
Underwriting discounts and commissions	\$	\$
Proceeds, before expenses, to us	\$	\$

Edgar Filing: SEATTLE GENETICS INC /WA - Form 424B5

We have granted the underwriters the right to purchase up to 1,350,000 additional shares of common stock to cover any over-allotments. The underwriters can exercise this right at anytime within 30 days after the date of this prospectus supplement.

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

The underwriters expect to deliver shares against payment on or about August , 2009.

J.P.Morgan

Goldman, Sachs & Co.

Needham & Company, LLC

Oppenheimer & Co.

RBC Capital Markets

William Blair & Company

The date of this prospectus supplement is August , 2009

Table of Contents

Table of Contents

Prospectus Supplement

	Page
<u>About this Prospectus Supplement</u>	S-ii
<u>Prospectus Supplement Summary</u>	S-1
<u>Risk Factors</u>	S-11
<u>Forward-Looking Statements</u>	S-12
<u>Use of Proceeds</u>	S-13
<u>Dilution</u>	S-14
<u>Material U.S. Federal Income Tax Consequences for Certain Non-U.S. Holders</u>	S-16
<u>Underwriting</u>	S-19
<u>Legal Matters</u>	S-22
<u>Experts</u>	S-22
<u>Where You Can Find More Information</u>	S-22
<u>Information Incorporated by Reference</u>	S-22

Prospectus

	Page
<u>About this Prospectus</u>	1
<u>Risk Factors</u>	1
<u>Forward-Looking Statements</u>	1
<u>Use of Proceeds</u>	2
<u>Description of Capital Stock</u>	3
<u>Validity of Common Stock</u>	6
<u>Experts</u>	6
<u>Where You Can Find More Information</u>	6

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. We have not, and the underwriters have not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents we have referred you to in the sections of this prospectus supplement entitled **Information Incorporated by Reference** and **Where You Can Find More Information**.

Table of Contents

About this Prospectus Supplement

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus dated May 22, 2009, including the documents incorporated by reference, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

All references in this prospectus supplement and the accompanying prospectus to Seattle Genetics, the Company, we, us, our, or similar references refer to Seattle Genetics, Inc., and its subsidiary, except where the context otherwise requires or as otherwise indicated.

Seattle Genetics® and are our registered trademarks in the United States. All other trademarks, trade names and service marks included or incorporated by reference in this prospectus supplement and the accompanying prospectus are the property of their respective owners.

Table of Contents

Prospectus Supplement Summary

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary does not contain all the information you should consider before investing in our common stock. You should read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference in this prospectus supplement and the accompanying prospectus and the information included in any free writing prospectus that we have authorized for use in connection with this offering. If you invest in our common stock, you are assuming a high degree of risk. See Risk Factors.

Company Overview

Seattle Genetics is a clinical stage biotechnology company focused on the development and commercialization of monoclonal antibody-based therapies for the treatment of cancer and autoimmune disease. We initiated a pivotal trial of our lead product candidate, brentuximab vedotin (SGN-35), during the first quarter of 2009 for patients with relapsed or refractory Hodgkin lymphoma under a special protocol assessment, or SPA, with the U.S. Food and Drug Administration, or FDA. Brentuximab vedotin is empowered by our proprietary antibody-drug conjugate, or ADC, technology comprising highly potent synthetic drugs and stable linkers for attaching the drugs to monoclonal antibodies. In addition, we have two other product candidates in ongoing late stage clinical trials: lintuzumab (SGN-33) and dacetuzumab (SGN-40), and one product candidate in an early stage clinical trial: SGN-70. Dacetuzumab is being developed under a worldwide collaboration with Genentech, Inc., a wholly-owned member of the Roche Group.

We have collaborations for our ADC technology with a number of leading biotechnology and pharmaceutical companies, including Genentech, Inc., Bayer Pharmaceuticals Corporation, CuraGen Corporation, Progenics Pharmaceuticals, Inc., Daiichi Sankyo Co., Ltd., MedImmune, Inc., a subsidiary of AstraZeneca, Inc., and Millennium: The Takeda Oncology Company, as well as an ADC co-development agreement with Agensys, Inc., a subsidiary of Astellas Pharma, Inc.

Our Monoclonal Antibody Technologies

Our pipeline of monoclonal antibody-based product candidates utilizes two technologies to maximize antitumor activity and reduce toxicity:

Engineered Monoclonal Antibodies. Our antibodies are genetically engineered to reduce non-human protein sequences, thereby lowering the potential for patients to develop a neutralizing immune response to the antibody and extending the duration of their use in therapy. Our monoclonal antibody engineering activities are primarily focused on developing humanized monoclonal antibodies. Through our ADC co-development agreement with Agensys, we also have the opportunity to co-develop ADCs incorporating fully-human antibodies.

Antibody-Drug Conjugates (ADCs). ADCs are monoclonal antibodies that are linked to potent cell-killing drugs. Our ADCs utilize monoclonal antibodies that internalize within target cells upon binding to their cell-surface receptors. A key component of our ADC is the linker that attaches the drug to the monoclonal antibody until internalized within the target cell where the drug is released, thereby minimizing toxicity to normal tissues. Our ADCs use auristatins which are highly potent cell-killing drugs. In contrast to natural product drugs that are often more difficult to produce and link to antibodies, our drug-linkers are synthetically produced and readily scaleable. Brentuximab vedotin, SGN-75, ASG-5ME, the ADC we are co-developing with Agensys and SGN-19A, utilize our proprietary, auristatin-based ADC technology. We own or hold exclusive or partially-exclusive licenses to multiple issued patents and patent applications covering our ADC technology.

Table of Contents**Product Candidate Development Pipeline**

The following table summarizes our product candidate development pipeline:

Product Candidate	Description	Commercial	Status
		Rights	
Brentuximab vedotin (SGN-35)	Anti-CD30 ADC	Seattle Genetics	Pivotal single agent trial ongoing under an SPA with the FDA in relapsed or refractory Hodgkin lymphoma; completion of enrollment expected in the third quarter of 2009
			Phase II single agent trial ongoing in relapsed or refractory systemic anaplastic large cell lymphoma, or sALCL
			Phase II single agent retreatment trial ongoing in relapsed or refractory Hodgkin lymphoma and sALCL
			Phase I single agent, weekly dosing trial ongoing in relapsed or refractory CD30-positive hematologic malignancies
Lintuzumab (SGN-33)	Humanized anti-CD33 antibody	Seattle Genetics	Randomized phase IIb low-dose cytarabine combination trial ongoing in acute myeloid leukemia, or AML; enrollment completed and data expected in the first half of 2010
			Phase Ib single-agent trial completed in AML and myelodysplastic syndromes, or MDS; enrollment completed and data reported in 2009
			Phase Ib Revlimid combination trial ongoing in MDS; enrollment completed and data expected in 2010
Dacetuzumab (SGN-40)	Humanized anti-CD40 antibody	Genentech	Randomized phase IIb Rituxan and ifosfamide, carboplatin and etoposide, or ICE, chemotherapy combination trial ongoing in patients with relapsed or refractory diffuse large B-cell lymphoma, or DLBCL; completion of enrollment and data expected in 2010
		(We have an option to co-promote in the United States)	
			Phase Ib Rituxan/Gemzar combination trial ongoing in patients with relapsed or refractory DLBCL

Edgar Filing: SEATTLE GENETICS INC /WA - Form 424B5

Phase Ib Rituxan combination trial ongoing in patients with relapsed or refractory follicular and marginal zone non-Hodgkin lymphoma

Phase Ib Revlimid combination trial ongoing in patients with relapsed or refractory multiple myeloma

Phase Ib Velcade combination trial ongoing in patients with relapsed or refractory multiple myeloma

SGN-70	Humanized anti-CD70 antibody	Seattle Genetics	Phase I trial ongoing for autoimmune disease
SGN-75	Anti-CD70 ADC	Seattle Genetics	Investigational new drug application, or IND, filing planned in 2009 for CD70-positive hematologic malignancies and solid tumors
ASG-5ME	Anti-AGS-5 ADC	50:50 co-develop-ment with Agensys, a subsidiary of Astellas Pharma	IND filing planned in the first half of 2010 for solid tumors
SGN-19A	Anti-CD19 ADC	Seattle Genetics	Future IND candidate for CD19-positive hematologic malignancies

S-2

Table of Contents

Brentuximab vedotin (SGN-35)

Brentuximab vedotin is an ADC composed of an anti-CD30 monoclonal antibody attached by our proprietary, enzyme-cleavable linker to a compound of the highly potent class of cell-killing drugs called auristatins. The CD30 antigen is an attractive target for cancer therapy because it is expressed on hematologic malignancies including Hodgkin lymphoma and several types of T-cell lymphoma but has limited expression on normal tissues.

We reported data in June 2009 at the 14th Congress of the European Hematology Association, or EHA, from a phase I clinical trial of brentuximab vedotin in patients with relapsed or refractory CD30-positive hematologic malignancies, primarily Hodgkin lymphoma. This single-agent, dose-escalation trial was designed to evaluate the safety, pharmacokinetic profile and antitumor activity of brentuximab vedotin administered every three weeks, and enrolled approximately 50 patients at multiple sites in the United States. Forty-four patients were evaluable including 41 with Hodgkin lymphoma, two with sALCL and one with angioimmunoblastic T-cell lymphoma. Of those patients treated at doses of 1.2 milligrams per kilogram (mg/kg) and higher the overall response rate was 54 percent based on investigator assessment, compared to 57 percent based on independent review. Furthermore, we reported a median duration of response of at least 7.3 months with eight patients remaining in ongoing response. Brentuximab vedotin was generally well tolerated. The majority of adverse events were Grade 1 and 2, with the most common being fatigue, fever, peripheral neuropathy, diarrhea and nausea.

We also reported data in June 2009 at the American Society of Clinical Oncology annual meeting from the ongoing phase I clinical trial of brentuximab vedotin in patients with relapsed or refractory CD30-positive hematologic malignancies, primarily Hodgkin lymphoma, administered on a weekly basis. Of the 27 patients who were evaluable for response, 13 patients achieved objective responses, including 10 complete responses and 3 partial responses. Eleven patients had stable disease and three patients had progressive disease. We reported a median duration of response of at least 16 weeks, with 12 responses still ongoing. Among 20 evaluable patients treated at doses of 0.8 mg/kg and higher, 60 percent achieved an objective response, including 50 percent with complete responses. Across all dose levels, 81 percent of patients achieved tumor reductions. Brentuximab vedotin was generally well tolerated. The majority of adverse events were Grade 1 and 2, with the most common being nausea, fatigue, peripheral neuropathy and neutropenia.

In February 2009, we initiated a pivotal, single-arm, open label trial of brentuximab vedotin in patients with relapsed or refractory Hodgkin lymphoma under an SPA with the FDA. The SPA provides an agreement between the FDA and Seattle Genetics regarding the design, including size and clinical endpoints, of the pivotal trial to support an efficacy claim in a New Drug Application, or NDA. The trial will assess efficacy and safety of single-agent brentuximab vedotin in 100 patients with relapsed or refractory Hodgkin lymphoma who previously received autologous stem cell transplant. Patients will receive 1.8 mg/kg of brentuximab vedotin every three weeks. The primary endpoint of the trial is objective response rate assessed by an independent radiographic facility. Secondary endpoints include duration of response, progression-free survival, overall survival and tolerability. We plan to enroll patients at more than 30 sites in the U.S., Canada and Europe, and expect patient accrual to be completed in the third quarter of 2009.

We are also conducting a phase II trial of single-agent brentuximab vedotin in approximately 50 patients with relapsed or refractory sALCL. In our phase I trials, six of seven sALCL patients treated in those trials achieved a complete response. We believe this phase II trial could provide supplementary safety and efficacy data for our brentuximab vedotin registration package.

We have received orphan drug designation from the FDA and the European Medicines Agency, or EMEA, for brentuximab vedotin in Hodgkin lymphoma and sALCL, and have retained worldwide commercial rights to the program. Our goal is to submit both an NDA with the FDA under the accelerated approval regulations and a Marketing Authorization Application with the EMEA for conditional marketing authorization for brentuximab vedotin for the treatment of relapsed or refractory Hodgkin lymphoma in the first half of 2011. Based on market research, we project that the worldwide annual market potential for brentuximab vedotin in

Table of Contents

relapsed or refractory lymphoma is \$300 million to \$400 million. In addition to the ongoing pivotal trial, we recently initiated a phase II retreatment trial for patients who have previously experienced an objective response with brentuximab vedotin while participating in our other trials. We are also exploring potential trial designs to facilitate moving brentuximab vedotin toward front-line lymphoma therapy and other CD30-positive hematologic malignancies. Importantly, we believe the reported clinical data for brentuximab vedotin indicate the therapeutic potential of our proprietary ADC technology to empower antibodies.

Lintuzumab (SGN-33)

Lintuzumab is a humanized monoclonal antibody that targets the CD33 antigen, which is highly expressed on myeloid malignancies and several myeloproliferative disorders. We are currently conducting phase I and phase II clinical development of lintuzumab in patients with AML or MDS, and have received orphan drug designation from the FDA for lintuzumab in both diseases. We have retained worldwide commercial rights to lintuzumab.

During 2008, we completed enrollment in a phase Ib single agent dose escalation trial of lintuzumab in patients with AML or MDS who were not eligible for intensive chemotherapy or stem cell transplantation or had failed previous therapy. This trial, which was conducted at multiple U.S. sites, was designed to evaluate safety, pharmacokinetic profile and antitumor activity of escalating doses of lintuzumab from 1.5 to 8 mg/kg. The preliminary data from this trial was reported at the American Society of Hematology, or ASH, annual meeting in December 2007 and the final data were reported at the 14th Congress of the EHA in June 2009. We reported data from 82 patients, including 59 with AML, 19 with MDS and 4 with other myeloproliferative diseases. The median age of patients was 74 years. Following the dose-escalation portion of the trial, an expansion cohort was enrolled at the 8.0 mg/kg dose. Ten of 59 patients with AML achieved an objective response, including four complete remissions, two morphologic leukemia-free states and four partial remissions. Thirty-seven patients experienced treatment failure and 12 were not evaluable for response. Across all dose levels, 28 AML patients (47 percent) had reductions in tumor blasts compared to baseline. Of the 23 patients with MDS or other myeloproliferative diseases, 15 patients achieved stable disease. Lintuzumab was generally well tolerated. The majority of adverse events were Grade 1 and 2, with the most common being chills and nausea. No maximum tolerated dose was identified and no anti-therapeutic antibodies were detected. Pharmacokinetic parameters were approximately dose-proportional.

In February 2009, we completed enrollment in a randomized, double blind, placebo-controlled, phase IIb trial of low-dose cytarabine chemotherapy with or without lintuzumab in approximately 210 patients with AML. This trial enrolled newly diagnosed AML patients over 60 years old who declined or were ineligible for induction chemotherapy. The primary goal of this trial is to determine whether the addition of lintuzumab prolongs survival of older AML patients who do not receive aggressive chemotherapy. In addition, the trial will evaluate whether patients receiving lintuzumab experience reduced infections, transfusion independence, fewer hospitalizations and improved quality of life. We expect data from this trial, which is event-driven, to be available in the first half of 2010.

In addition to treatment of older AML patients, we are pursuing opportunities for lintuzumab in MDS, as well as considering strategies for expanding into treatment of younger AML patients. We have completed accrual to our phase Ib trial evaluating the combination of lintuzumab and Revlimid for patients with intermediate and high-risk MDS. Preclinical data demonstrate that Revlimid may augment the immune effector function of antibodies, which is a primary mechanism of action for lintuzumab. We plan to provide data in the first half of 2010. We are also planning a combination study of lintuzumab plus Vidaza in MDS based on recent clinical data with Vidaza.

Dacetuzumab (SGN-40)

Dacetuzumab is a humanized monoclonal antibody that is currently in phase I and II clinical trials for non-Hodgkin lymphoma and multiple myeloma. Dacetuzumab targets the CD40 antigen, which is expressed on B-cell lineage hematologic malignancies, as well as solid tumors such as bladder, renal and ovarian cancer. We also believe dacetuzumab may have applications in the treatment of autoimmune disease. We have received orphan drug designation from the FDA for dacetuzumab in multiple myeloma and chronic lymphocytic leukemia.

Table of Contents

In January 2007, we entered into an exclusive worldwide collaboration agreement with Genentech for the development and commercialization of dacetuzumab. Under the terms of the agreement, we received an upfront payment of \$60 million, and are entitled to receive potential milestone payments exceeding \$800 million and escalating double-digit royalties starting in the mid-teens on net sales of dacetuzumab. We also have an option to co-promote dacetuzumab in the United States. Genentech is responsible for funding research, development, manufacturing and commercialization costs for dacetuzumab, including reimbursing us for all costs we incur in connection with clinical and development activities we conduct for the program. Our joint development plan with Genentech for dacetuzumab includes multiple trials of dacetuzumab both as a single agent and combined with standard therapies for the treatment of patients with non-Hodgkin lymphoma or multiple myeloma. We had received a total of \$20 million in milestone payments from Genentech as of June 30, 2009 under the collaboration associated with dacetuzumab clinical trial initiations.

We reported phase II data from our DLBCL trial at the ASH annual meeting in December 2008. In this open label, single agent trial, we enrolled 46 patients who were heavily pre-treated, with a median of four prior systemic therapies. The median age of enrolled patients was 72 and patients received six doses of dacetuzumab over five weeks, with an intra-patient dose escalation up to 8 mg/kg. Objective responses were observed in four out of 38 patients evaluable for response, including two complete remissions and two partial remissions, for an overall response rate of ten percent. The duration of objective responses ranged from 78 days to greater than 271 days. Ten additional patients had stable disease and approximately one-third of all patients had reductions in tumor size. Dacetuzumab was generally well tolerated with the majority of adverse events being Grade 1 and 2, including fatigue, headache and chills.

We also reported phase I data from our non-Hodgkin lymphoma trial at the International Conference on Malignant Lymphoma held in Lugano, Switzerland in June 2008. In that trial, 50 patients with non-Hodgkin lymphoma were treated on the open label single-arm, dose-escalation trial of dacetuzumab. Cohorts of patients received escalating doses of dacetuzumab ranging from 2 mg/kg to 8 mg/kg. The median age was 62 years and patients had received a median of three prior therapies. Out of 48 patients treated with dacetuzumab who were evaluable for response across all dose levels, six patients achieved objective responses, including one complete response and five partial responses. Thirteen patients had stable disease and 29 had progressive disease. Of the 22 patients in the trial with DLBCL, four achieved an objective response. Overall, dacetuzumab was generally well tolerated with the majority of adverse events being Grade 1 and 2, including fatigue, fever and headache.

In collaboration with Genentech, we are conducting a broad development plan for dacetuzumab that includes five clinical trials of dacetuzumab both as a single agent and combined with standard therapies for non-Hodgkin lymphoma and multiple myeloma. These include:

Phase IIb R-ICE Combination Trial. In December 2007, we initiated a phase IIb randomized, double blind, placebo-controlled combination trial of Rituxan and ICE chemotherapy, or R-ICE, with or without dacetuzumab, in patients with relapsed or refractory DLBCL.

Phase Ib Rituxan/Gemzar Combination Trial. In April 2008, we initiated a phase Ib combination trial of dacetuzumab plus Rituxan and Gemzar in patients with relapsed or refractory DLBCL.

Phase Ib Rituxan Combination Trial. In January 2008, Genentech initiated a phase Ib combination trial of dacetuzumab plus Rituxan in patients with relapsed or refractory follicular or marginal zone non-Hodgkin lymphoma.

Phase Ib Revlimid Combination Trial. In November 2007, we initiated a phase Ib combination trial of dacetuzumab plus Revlimid in patients with relapsed or refractory multiple myeloma.

Phase Ib Velcade Combination Trial. In June 2008, Genentech initiated a phase Ib combination trial of dacetuzumab plus Velcade in patients with relapsed or refractory multiple myeloma.

We expect to report data from the four ongoing phase Ib combination trials of dacetuzumab in non-Hodgkin lymphoma and multiple myeloma at appropriate medical conferences during 2009 and 2010. Data from the phase IIb combination trial of R-ICE and dacetuzumab in DLBCL is expected in 2010.

S-5

Table of Contents

SGN-70

SGN-70 is a humanized anti-CD70 monoclonal antibody with potent effector functions based on pre-clinical testing. We believe that SGN-70 has significant application for the treatment of autoimmune diseases where the body's immune system malfunctions and attacks its own healthy cells. Many therapies for autoimmune diseases rely on suppressing the immune system to prevent further damage to normal tissues, but have the unwanted side effect of making the patient more susceptible to infection or cancer. The CD70 antigen is expressed on activated T- and B-cells but is absent on these cells when in a resting state. Since resting T- and B-cells make up the majority of immune cells circulating in the body, SGN-70 may be able to prevent or reduce a damaging immune response without globally suppressing the patient's immune system. We have presented preclinical data demonstrating that SGN-70 inhibits T- and B-cell functions, selectively depletes CD70-positive activated T-cells and limits expansion of CD70- positive lymphocytes. We completed the phase I dose escalation trial of SGN-70 to assess the safety, tolerability and pharmacokinetics of SGN-70 in healthy volunteers and began treatment of patients with autoimmune disease in the second quarter of 2009.

SGN-75

SGN-75 is an ADC composed of an anti-CD70 monoclonal antibody linked to a potent auristatin compound using our proprietary ADC technology. The CD70 antigen has a broad expression profile in multiple types of cancer, including multiple myeloma, lymphoma, renal cancer, glioblastoma and several other solid tumors. We presented data at the American Association for Cancer Research annual meeting in April 2009 demonstrating CD70 expression on a variety of solid tumors, including pancreatic, larynx/pharynx, ovarian, skin, lung and colon cancer. This presentation added to data previously reported by Seattle Genetics on CD70 expression in multiple hematologic malignancies, renal cancer and glioblastoma, and that SGN-75 has potent antitumor activity at well-tolerated doses in preclinical models of renal cell cancer. We are planning to file an IND for SGN-75 in CD70-positive hematologic malignancies and solid tumors during 2009.

ASG-5ME

ASG-5ME is a preclinical ADC product candidate for the treatment of solid tumors that we are co-developing under our collaboration with Agensys, a subsidiary of Astellas Pharma. We are currently conducting preclinical studies and manufacturing activities to support a planned IND filing for this program in the first half of 2010.

SGN-19A

SGN-19A is a preclinical ADC product candidate for the treatment of hematologic malignancies. It targets CD19, which is a B-cell antigen that is expressed in non-Hodgkin lymphoma, chronic lymphocytic leukemia and acute lymphocytic leukemia. We reported data at the American Association for Cancer Research-National Cancer Institute-European Organization for Research and Treatment of Cancer conference in October 2007 demonstrating that SGN-19A effectively binds to target cells with high affinity, internalizes and induces potent cancer-cell-killing activity and durable tumor regressions at low doses in multiple cancer models.

Our Strategy

Our strategy is to become a leading developer and marketer of monoclonal antibody-based therapies for cancer and autoimmune diseases. Key elements of our strategy are to:

Advance our Three Lead Clinical Programs towards Regulatory Approval and Commercialization. Our primary goal is to advance brentuximab vedotin through the pivotal clinical trial and lintuzumab and dacetuzumab through late stage clinical trials towards regulatory approval and commercialization.

Enter into Strategic Collaborations to Generate Capital and Supplement our Internal Resources. We enter into collaborations at appropriate stages in our drug development process to

Table of Contents

broaden and accelerate clinical trials and commercialization of our product candidates, to provide significant financial benefit and to complement our capabilities, while preserving meaningful product rights. With those goals in mind, we are in the process of building a commercial infrastructure to support the potential launch of brentuximab vedotin in the U.S. in 2011 while we evaluate partnership opportunities outside the U.S. to enhance our worldwide strategy for the commercialization of brentuximab vedotin.

Maintain a Strong Product Candidate Pipeline by Advancing our Preclinical Programs towards Clinical Trials. We believe that it is important to maintain a diverse pipeline of antibody-based product candidates to sustain our future growth. To accomplish this, we currently have one early stage clinical program, SGN-70, and three lead preclinical programs, SGN-75, ASG-5ME and SGN-19A.

Continue to Leverage our Industry-Leading ADC Technology. We have developed proprietary ADC technology designed to empower monoclonal antibodies. We are currently developing multiple product candidates that employ our ADC technology, including brentuximab vedotin, SGN-75 and several other preclinical programs. We also license our ADC technology to leading biotechnology and pharmaceutical companies to generate near-term revenue and funding, as well as potential future milestones and royalties. Our technology licensing deals had generated more than \$75 million as of June 30, 2009 through a combination of upfront and research support fees, milestones and equity purchases.

Ensure Future Growth of our Pipeline through Internal Research Efforts and Strategic In-Licensing. We have internal research programs directed towards identifying novel antigen targets and monoclonal antibodies, creating new antibody engineering techniques and developing new classes of stable linkers and potent, cell-killing drugs for our ADC technology. In addition, we supplement these internal efforts through ongoing initiatives to identify product candidates, products and technologies to in-license from biotechnology and pharmaceutical companies and academic institutions.

Corporate Information

We were incorporated in Delaware on July 15, 1997. Our principal executive offices are located at 21823 30th Drive SE, Bothell, Washington 98021. Our telephone number is (425) 527-4000. Our website is www.seattlegenetics.com. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus supplement or the accompanying prospectus and should not be considered part of this prospectus supplement or the accompanying prospectus.

Table of Contents

The Offering

Common stock we are offering	9,000,000 shares
Common stock to be outstanding after this offering	95,886,231 shares
Use of proceeds	We intend to use the net proceeds from this public offering to fund our research and development efforts, including manufacturing activities and clinical trials for our proprietary product candidates, build-out of a commercial infrastructure and for general corporate purposes, including working capital. See Use of Proceeds on page S-13.
Risk Factors	Investing in our common stock involves a high degree of risk. See Risk Factors on page S-11.
NASDAQ Global Market symbol	SGEN
Entities affiliated with one of our directors and principal stockholders, Felix Baker, have indicated an interest in purchasing up to 1,538,915 shares of our common stock in this offering at the public offering price. Because these indications of interest are not binding agreements or commitments to purchase, any or all of these entities may elect not to purchase any shares in this offering, or the underwriters may elect not to sell any shares in this offering to any or all of these entities.	

The number of shares of our common stock to be outstanding immediately after this offering is based on 86,886,231 shares outstanding as of June 30, 2009 and excludes:

9,275,891 shares of our common stock issuable upon the exercise of options outstanding as of June 30, 2009, having a weighted-average exercise price of approximately \$8.11 per share;

1,925,000 shares of our common stock subject to warrants outstanding as of June 30, 2009, having an exercise price of \$6.25 per share;

an aggregate of 2,707,981 shares of common stock reserved for future issuance under our 2007 Equity Incentive Plan and our 2000 Directors' Stock Option Plan as of June 30, 2009; and

274,787 shares of common stock reserved for future issuance under our 2000 Employee Stock Purchase Plan as of June 30, 2009. Except as otherwise indicated, all information in the prospectus supplement assumes no exercise by the underwriters of their over-allotment option.

Table of Contents**Summary Consolidated Financial Data**

We present below our summary consolidated financial data. We have derived our summary consolidated statements of operations data for the years ended December 31, 2008, 2007 and 2006 from our audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2008 and incorporated by reference in this prospectus supplement and the accompanying prospectus. We have derived our summary consolidated statements of operations data for the six months ended June 30, 2009 and 2008, and our summary consolidated balance sheet data as of June 30, 2009, from our unaudited consolidated financial statements included in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2009 and incorporated by reference in this prospectus supplement and the accompanying prospectus. Our historical results are not necessarily indicative of the results to be expected in any future period. The as adjusted balance sheet data gives effect to the issuance of 9,000,000 shares of our common stock in this offering at an assumed public offering price of \$11.80 per share (the closing price of our common stock on August 7, 2009), after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The following summary information should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes included in our periodic reports on file with the SEC and incorporated by reference in this prospectus supplement and the accompanying prospectus.

Consolidated Statements of Operations Data:	Years Ended December 31,			Six Months Ended	
	2008	2007	2006	2009	2008
	June 30, (unaudited)				
	(in thousands, except per share amounts)				
Revenues	\$ 35,236	\$ 22,420	\$ 10,005	\$ 18,550	\$ 17,089
Operating expenses:					
Research and development	110,944	64,828	40,136	61,958	45,651
General and administrative	16,078	13,237	10,074	8,175	8,029
Loss from operations	(91,786)	(55,645)	(40,205)	(51,583)	(36,591)
Investment income, net	6,285	6,713	4,190	1,844	3,451
Net loss	\$ (85,501)	\$ (48,932)	\$ (36,015)	\$ (49,739)	\$ (33,140)
Basic and diluted net loss per share attributable to common stockholders	\$ (1.09)	\$ (0.80)	\$ (0.74)	\$ (0.59)	\$ (0.43)
Weighted-average shares used in computing basic and diluted net loss per share	78,724	61,293	48,659	84,880	77,768

Consolidated Balance Sheet Data:	As of June 30, 2009	
	Actual	As adjusted⁽¹⁾
	(unaudited, in thousands)	
Cash, cash equivalents and short and long-term investments	\$ 189,937	\$ 289,996
Working capital	103,575	203,634
Total assets	212,821	312,880
Stockholders' equity	100,090	200,149

- (1) Each \$1.00 increase (decrease) in the assumed public offering price of \$11.80 per share (the closing price of our common stock on August 7, 2009) would increase (decrease) each of cash, cash equivalents and short and long-term investments, working capital, total assets and stockholders' equity by approximately \$8.5 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus supplement, remains the same, and after deducting the estimated underwriting discounts and

S-9

Table of Contents

commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each increase (decrease) of 1,000,000 in the number of shares offered by us would increase (decrease) each of cash, cash equivalents and short and long-term investments, working capital, total assets and stockholders equity by approximately \$11.2 million, assuming that the assumed public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. The as adjusted information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing.

S-10

Table of Contents

Risk Factors

An investment in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should consider carefully the risks described below and discussed under the section captioned "Risk Factors" contained in our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2009, which are incorporated by reference in this prospectus supplement and the accompanying prospectus in their entirety, together with other information in this prospectus supplement, the accompanying prospectus, the information and documents incorporated by reference, and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

Risks Related to This Offering

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

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

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

Since the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. Based on an assumed public offering price of \$11.80 per share (the closing price of our common stock on August 7, 2009), if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$9.71 per share in the net tangible book value of the common stock. See the section entitled "Dilution" below for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

Table of Contents

Forward-Looking Statements

This prospectus supplement, the accompanying prospectus, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering contain 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. You can identify these statements by the fact that they do not relate strictly to historical or current facts. Such statements may include words such as anticipate, estimate, expect, project, intend, plan, believe, may, might, predict, should, will and other words and terms in connection with any discussion of future operating or financial performance. In particular, these statements include, among other things, statements relating to:

the development of our product candidates;

the success and timing of our preclinical studies and clinical trials, and the commencement of future clinical trials;

the timing of release of clinical data;

the submission and timing of applications for regulatory approvals;

the establishment and development of collaborative partnerships;

our ability to identify new potential product candidates;

our ability to achieve commercial acceptance of our product candidates if approved for commercial sale;

our ability to scale-up our manufacturing capabilities and facilities;

the use of proceeds from this offering;

our projected capital expenditures; and

our liquidity.

Because the risks and uncertainties referred to above, as well as the risk factors incorporated by reference, could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Except as required by law, we undertake no obligation to publicly revise our forward-looking statements to reflect events or circumstances that arise after the date of this prospectus supplement or the accompanying prospectus or the date of documents incorporated by reference in this prospectus supplement that include forward-looking statements.

Edgar Filing: SEATTLE GENETICS INC /WA - Form 424B5

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we have authorized for use in connection with this offering, and understand that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. Before deciding to purchase our common stock, you should carefully consider the risk factors discussed herein or incorporated by reference, in addition to the other information set forth in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering.

S-12

Table of Contents

Use of Proceeds

We estimate that the net proceeds from the sale of the 9,000,000 shares of common stock that we are offering will be approximately \$100.1 million, or approximately \$115.1 million if the underwriters exercise in full their option to purchase 1,350,000 additional shares of common stock, based on the assumed public offering price of \$11.80 per share (the closing price of our common stock on August 7, 2009) and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each \$1.00 increase (decrease) in the assumed public offering price of \$11.80 per share would increase (decrease) the net proceeds to us from this offering by approximately \$8.5 million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus supplement, remains the same. We may also increase or decrease the number of shares we are offering. Each increase (decrease) of 1,000,000 shares in the number of shares offered by us would increase (decrease) the net proceeds to us from this offering by approximately \$11.2 million, assuming that the assumed public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We do not expect that a change in the offering price or the number of shares by these amounts would have a material effect on our uses of the proceeds from this offering, although it may impact the amount of time prior to which we will need to seek additional capital.

We intend to use the net proceeds from this public offering to fund our research and development efforts, including manufacturing activities and clinical trials for our proprietary product candidates, build-out of a commercial infrastructure and for general corporate purposes, including working capital. We may also use a portion of the net proceeds from this public offering to acquire or invest in complementary businesses, technologies, product candidates or other intellectual property, although we have no present commitments or agreements to do so.

The amounts and timing of these expenditures will depend on a number of factors, such as the timing and progress of our research and development efforts, technological advances and the competitive environment for our product candidates. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, we will retain broad discretion over the use of these proceeds. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short and long-term interest bearing instruments.

Table of Contents**Dilution**

Our net tangible book value as of June 30, 2009 was approximately \$100.1 million, or \$1.15 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of June 30, 2009. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this public offering and the net tangible book value per share of our common stock immediately after this public offering.

After giving effect to the sale of 9,000,000 shares of our common stock in this public offering at an assumed public offering price of \$11.80 per share (the closing price of our common stock on August 7, 2009) and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2009 would have been approximately \$200.1 million, or \$2.09 per share. This represents an immediate increase in net tangible book value of \$0.94 per share to existing stockholders and immediate dilution in net tangible book value of \$9.71 per share to new investors purchasing our common stock in this public offering at the assumed public offering price. The following table illustrates this dilution on a per share basis:

Assumed public offering price per share	\$ 11.80
Net tangible book value per share as of June 30, 2009	\$ 1.15
Increase per share attributable to new investors	0.94
As adjusted net tangible book value per share after this public offering	2.09
Dilution per share to new investors	\$ 9.71

Each \$1.00 increase (decrease) in the assumed public offering price of \$11.80 per share would increase (decrease) our as adjusted net tangible book value after this offering by approximately \$8.5 million, or approximately \$0.09 per share, and the dilution per share to new investors by approximately \$0.91 per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus supplement, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase of 1,000,000 shares in the number of shares offered by us would increase our as adjusted net tangible book value after this offering by approximately \$11.2 million, or \$0.09 per share, and the dilution per share to new investors would be \$9.62 per share, assuming that the assumed public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, a decrease of 1,000,000 shares in the number of shares offered by us would decrease our as adjusted net tangible book value after this offering by approximately \$11.2 million, or \$0.10 per share, and the dilution per share to new investors would be \$9.81 per share, assuming that the assumed public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. The information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing.

If the underwriters exercise in full their option to purchase 1,350,000 additional shares of common stock at the assumed offering price of \$11.80 per share, the as adjusted net tangible book value after this offering would be \$2.21 per share, representing an increase in net tangible book value of \$1.06 per share to existing stockholders and immediate dilution in net tangible book value of \$9.59 per share to new investors purchasing our common stock in this offering at the assumed public offering price.

The above discussion and table are based on 86,886,231 shares outstanding as of June 30, 2009 and exclude:

9,275,891 shares of our common stock issuable upon the exercise of options outstanding as of June 30, 2009, having a weighted-average exercise price of approximately \$8.11 per share;

1,925,000 shares of our common stock subject to warrants outstanding as of June 30, 2009, having an exercise price of \$6.25 per share;

Table of Contents

an aggregate of 2,707,981 shares of our common stock reserved for future issuance under our 2007 Equity Incentive Plan and our 2000 Directors' Stock Option Plan as of June 30, 2009; and

274,787 shares of our common stock reserved for future issuance under our 2000 Employee Stock Purchase Plan as of June 30, 2009.

To the extent that outstanding options or warrants are exercised, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

S-15

Table of Contents

Material U.S. Federal Income Tax Consequences for Certain Non-U.S. Holders

The following summary describes the material U.S. federal income tax consequences of the acquisition, ownership and disposition of common stock acquired in this offering by certain Non-U.S. Holders (as defined below). This discussion does not address all aspects of U.S. federal income and estate taxes and does not deal with foreign, state and local consequences that may be relevant to Non-U.S. Holders in light of their particular circumstances. Special rules may apply to certain Non-U.S. Holders that are subject to special treatment under the Internal Revenue Code of 1986, as amended, or the Code, such as financial institutions, insurance companies, tax-exempt organizations, broker-dealers and traders in securities, U.S. expatriates, controlled foreign corporations, passive foreign investment companies, corporations that accumulate earnings to avoid U.S. federal income tax, persons that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or integrated investment, partnerships and other pass-through entities, investors in such pass-through entities, and persons that own, or have owned, actually or constructively, more than five percent of our common stock. Such Non-U.S. Holders are urged to consult their own tax advisors to determine the U.S. federal, state, local and other tax consequences that may be relevant to them. Furthermore, the discussion below is based upon the provisions of the Code, and Treasury regulations, rulings and judicial decisions thereunder as of the date hereof, and such authorities may be repealed, revoked or modified, perhaps retroactively, so as to result in U.S. federal income and estate tax consequences different from those discussed below. This discussion assumes that the Non-U.S. Holder holds our common stock as a capital asset (generally, properly held for investment within the meaning of Code Section 1221).

The following discussion is for general information only and is not tax advice. Persons considering the purchase of common stock pursuant to this offering should consult their own tax advisors concerning the U.S. federal income and estate tax consequences in light of their particular situations as well as any consequences arising under the laws of any other taxing jurisdiction, including any state, local or foreign tax consequences.

For the purposes of this discussion, a Non-U.S. Holder is, for U.S. federal income tax purposes, a beneficial holder of common stock that is not a U.S. Holder. A U.S. Holder means a beneficial holder of common stock that is for U.S. federal income tax purposes (i) an individual who is a citizen or resident of the United States, (ii) a corporation or other entity treated as a corporation created or organized in or under the laws of the United States or any political subdivision thereof, (iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source or (iv) a trust if it (x) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (y) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

Distributions

Subject to the discussion below, distributions, if any, made on our common stock to a Non-U.S. Holder of our common stock out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles) generally will constitute dividends for U.S. tax purposes. The gross amount of such dividends will be subject to withholding tax at a 30 percent rate or such lower rate as may be specified by an applicable income tax treaty. To obtain a reduced rate of withholding under a treaty, a Non-U.S. Holder generally will be required to provide us with a properly-executed IRS Form W-8BEN, or other appropriate form, certifying the Non-U.S. Holder's entitlement to benefits under that treaty. In the case of a Non-U.S. Holder that is an entity, Treasury Regulations and the relevant tax treaty provide rules to determine whether, for purposes of determining the applicability of a tax treaty, dividends will be treated as paid to the entity or to those holding an interest in that entity. If a Non-U.S. Holder holds stock through a financial institution or other agent acting on the holder's behalf, the holder will be required to provide appropriate documentation to such agent. The holder's agent will then be required to provide certification to us or our paying agent, either directly or through other intermediaries.

We generally are not required to withhold tax on dividends paid to a Non-U.S. Holder that are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States if a properly-executed IRS Form W-8ECI, stating that the dividends are so connected, is provided to us. In general, effectively connected dividends will be subject to U.S. federal income tax, on a net income basis at the regular

Table of Contents

graduated rates, unless a specific treaty exemption applies. A corporate Non-U.S. Holder receiving effectively connected dividends may also be subject to an additional branch profits tax, which is imposed, under certain circumstances, at a rate of 30 percent (or such lower rate as may be specified by an applicable treaty) on the corporate Non-U.S. Holder's effectively connected earnings and profits, subject to certain adjustments.

To the extent distributions on our common stock, if any, exceed our current and accumulated earnings and profits, they will constitute a return of capital and will first reduce your basis in our common stock, but not below zero, and then will be treated as gain from the sale of stock. See **Gain on Disposition of Common Stock** below.

Gain on Disposition of Common Stock

Subject to the discussion below regarding back-up withholding, a Non-U.S. Holder generally will not be subject to U.S. federal income tax with respect to gain realized on a sale or other disposition of our common stock unless (i) the gain is effectively connected with a trade or business of such holder in the United States, (ii) in the case of a Non-U.S. Holder who is a nonresident alien individual and is present in the United States for 183 or more days in the taxable year of the disposition and certain other conditions are met, or (iii) we are or have been a United States real property holding corporation within the meaning of Code Section 897(c)(2) at any time within the shorter of the five-year period preceding such disposition or such holder's holding period. In general, we would be a United States real property holding corporation if interests in U.S. real estate comprised at least half of our business assets. We believe that we are not, and do not anticipate becoming, a United States real property holding corporation. Even if we are treated as a United States real property holding corporation, gain realized by a Non-U.S. Holder on a disposition of our common stock will not be subject to U.S. federal income tax so long as (1) the Non-U.S. Holder owned directly, indirectly and constructively, no more than five percent of our common stock at all times within the shorter of (a) the five year period preceding the disposition or (b) the holder's holding period and (2) our common stock is regularly traded on an established securities market. There can be no assurance that our common stock will continue to qualify as regularly traded on an established securities market.

If you are a Non-U.S. Holder described in (i) above, you will be required to pay tax on the net gain derived from the sale at regular graduated U.S. federal income tax rates, unless a specific treaty exemption applies. In addition, corporate Non-U.S. Holders described in (i) above may be subject to the additional branch profits tax at a 30 percent rate or such lower rate as may be specified by an applicable income tax treaty. If you are an individual Non-U.S. Holder described in (ii) above, you will be required to pay a flat 30 percent tax on the gain derived from the sale, which tax may be offset by U.S. source capital losses (even though you are not considered a resident of the United States).

Information Reporting Requirements and Backup Withholding

Generally, we must report information to the IRS with respect to any dividends we pay on our stock including the amount of any such dividends, the name and address of the recipient, and the amount, if any, of tax withheld. A similar report is sent to the holder to whom any such dividends are paid. Pursuant to tax treaties or certain other agreements, the IRS may make its reports available to tax authorities in the recipient's country of residence.

Dividends paid by us (or our paying agents) to a Non-U.S. Holder may also be subject to U.S. backup withholding. U.S. backup withholding generally will not apply to a Non-U.S. Holder who provides a properly-executed IRS Form W-8BEN. The current backup withholding rate is 28 percent.

Under current U.S. federal income tax law, U.S. information reporting and backup withholding generally will apply to the proceeds of a disposition of our common stock effected by or through a U.S. office of a broker. Generally, U.S. backup withholding will not apply to a payment of disposition proceeds to a Non-U.S. Holder where the transaction is effected through a non-U.S. office of a non-U.S. broker, provided that the Non-U.S. Holder satisfies certain procedural requirements. Backup withholding generally will not apply to a Non-U.S. Holder who provides a properly-executed IRS Form W-8BEN or otherwise establishes an exemption.

Table of Contents

Backup withholding may, however, apply to a payment of disposition proceeds if the broker has actual knowledge, or reason to know, that the holder is, in fact, a U.S. person.

Backup withholding is not an additional tax. Rather, the tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund may generally be obtained, provided that the required information is timely furnished to the IRS.

THE PRECEDING DISCUSSION OF U.S. FEDERAL INCOME TAX CONSIDERATIONS IS FOR GENERAL INFORMATION ONLY. IT IS NOT TAX ADVICE. EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE TAX CONSEQUENCES OF PURCHASING, HOLDING AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAW.

S-18

Table of Contents**Underwriting**

We are offering the shares of common stock described in this prospectus supplement through a number of underwriters. J.P. Morgan Securities Inc. and Goldman, Sachs & Co. are acting as joint book-running managers of the offering and as representatives of the underwriters. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement, the number of shares of common stock listed next to its name in the following table:

Name	Number of Shares
J.P. Morgan Securities Inc.	
Goldman, Sachs & Co.	
Needham & Company, LLC	
Oppenheimer & Co. Inc.	
RBC Capital Markets Corporation	
William Blair & Company, LLC	
Total	9,000,000

The underwriters are committed to purchase all the common shares offered by us if they purchase any shares. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the shares of common stock directly to the public at the public offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession not in excess of \$ _____ per share. Any such dealers may resell shares to certain other brokers or dealers at a discount of up to \$ _____ per share from the public offering price. After the public offering of the shares, the offering price and other selling terms may be changed by the underwriters.

The underwriters have an option to buy up to 1,350,000 additional shares of common stock from us to cover sales of shares by the underwriters which exceed the number of shares specified in the table above. The underwriters have 30 days from the date of this prospectus supplement to exercise this over-allotment option. If any shares are purchased with this over-allotment option, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The underwriting fee is \$ _____ per share. The following table shows the per share and total underwriting discounts and commissions we will pay to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	No Exercise	Full Exercise
Per share	\$ _____	\$ _____
Total to be paid by us		

We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately \$300,000.

We, our directors and executive officers, and certain of our significant stockholders have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which we and each of these persons or entities for a period of 90 days after the date of this prospectus supplement, may not, subject to limited exceptions, without the prior written consent of J.P. Morgan Securities Inc. and Goldman, Sachs & Co., (1) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or

S-19

Table of Contents

exercisable or exchangeable for our common stock (including without limitation, common stock which may be deemed to be beneficially owned by the lock-up signatory in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant) or (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of our common stock, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of common stock or such other securities, in cash or otherwise. Notwithstanding the foregoing, if (i) during the last 17 days of the 90-day restricted period, we issue an earnings release or material news or a material event relating to our company occurs; or (ii) prior to the expiration of the 90-day restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the 90-day period, the restrictions described above shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933, as amended.

Our common stock is listed on The NASDAQ Global Market under the symbol **SGEN**.

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of common stock in the open market for the purpose of preventing or retarding a decline in the market price of the common stock while this offering is in progress. These stabilizing transactions may include making short sales of the common stock, which involves the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering, and purchasing shares of common stock on the open market to cover positions created by short sales. Short sales may be covered shorts, which are short positions in an amount not greater than the underwriters' over-allotment option referred to above, or may be naked shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their over-allotment option, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the over-allotment option. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act of 1933, as amended, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common stock or preventing or retarding a decline in the market price of the common stock, and, as a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on The NASDAQ Global Market, in the over-the-counter market or otherwise.

In addition, in connection with this offering certain of the underwriters (and selling group members) may engage in passive market making transactions in our common stock on The NASDAQ Global Market prior to the pricing and completion of this offering. Passive market making consists of displaying bids on The NASDAQ Global Market no higher than the bid prices of independent market makers and making purchases at prices no higher than these independent bids and effected in response to order flow. Net purchases by a passive market maker on each day are generally limited to a specified percentage of the passive market maker's average daily trading volume in the common stock during a specified period and must be discontinued when such limit is reached. Passive market making may cause the price of our common stock to be higher than the price that otherwise would exist in the open market in the absence of these transactions. If passive market making is commenced, it may be discontinued at any time.

Table of Contents

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

Each underwriter has represented that (i) it has only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of any common stock in circumstances in which Section 21(1) of the FSMA does not apply to us and (ii) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares in, from or otherwise involving the United Kingdom.

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), each underwriter has represented and agreed that with effect from and including the date on which the European Union Prospectus Directive (the EU Prospectus Directive) is implemented in that Relevant Member State (the Relevant Implementation Date) it has not made and will not make an offer of common stock to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the EU Prospectus Directive, except that it may, with effect from and including the Relevant Implementation Date, make an offer of shares to the public in that Relevant Member State at any time:

to legal entities which are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;

to any legal entity which has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than 43,000,000 and (3) an annual net turnover of more than 50,000,000, as shown in its last annual or consolidated accounts;

to fewer than 100 natural or legal persons (other than qualified investors as defined in the EU Prospectus Directive) subject to obtaining the prior consent of the book-running managers for any such offer; or

in any other circumstances which do not require the publication by the Issuer of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an offer of shares to the public in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in that Member State by any measure implementing the EU Prospectus Directive in that Member State and the expression EU Prospectus Directive means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

Additionally, certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

Certain entities affiliated with J.P. Morgan Securities Inc. hold approximately 2.5% of our common stock as of August 4, 2009, assuming the exercise of warrants owned by these entities.

Table of Contents

Legal Matters

The validity of the shares of common stock offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Cooley Godward Kronish LLP, Seattle, Washington. As of the date of this prospectus supplement, certain partners and associates of Cooley Godward Kronish LLP own an aggregate of approximately 7,496 shares of our common stock. Sonya F. Erickson, a partner of Cooley Godward Kronish LLP, serves as our Assistant Secretary. Latham & Watkins LLP, Costa Mesa, California, is counsel for the underwriters in connection with this offering.

Experts

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this prospectus supplement by reference to the Annual Report on Form 10-K for the year ended December 31, 2008 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

Where You Can Find More Information

This prospectus supplement and the accompanying prospectus are part of the registration statement on Form S-3 we filed with the SEC under the Securities Act of 1933, as amended, on May 22, 2009, and do not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus supplement or the accompanying prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Securities Exchange Act of 1934, as amended, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. You may also read and copy any document we file at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

Information Incorporated by Reference

The SEC allows us to incorporate by reference information from other documents that we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus. Information contained in this prospectus supplement and the accompanying prospectus and information that we file with the SEC in the future and incorporate by reference in this prospectus supplement and the accompanying prospectus will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings (other than Current Reports on Form 8-K furnished under Item 2.02 or Item 7.01 and exhibits filed on such form that are related to such items) we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, after the date of the prospectus supplement and before the sale of all the securities covered by this prospectus supplement (Commission File No. 0-32405):

our Annual Report on Form 10-K for the year ended December 31, 2008;

the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2008 from our definitive proxy statement on Schedule 14A, filed with the SEC on April 9, 2009;

our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2009 and June 30, 2009;

Table of Contents

our Current Reports on Form 8-K filed with the SEC on January 21, 2009, January 26, 2009, January 27, 2009, January 28, 2009, February 19, 2009 and May 21, 2009 (other than the portions of these reports furnished but not filed pursuant to SEC rules and the exhibits filed on such form that relate to such portions); and

the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on February 28, 2001, including any amendments or reports filed for the purpose of updating such description.

You may request a copy of these filings, at no cost, by telephoning our Investor Relations department at (425) 527-4000 or writing us at:

Investor Relations

Seattle Genetics, Inc.

21823 30th Drive SE

Bothell, WA 98021

S-23

Table of Contents

PROSPECTUS

SEATTLE GENETICS, INC.

Common Stock

From time to time, we may offer and sell shares of common stock in amounts, at prices and on terms described in one or more supplements to this prospectus.

This prospectus describes some of the general terms that may apply to an offering of our common stock. The specific terms and any other information relating to a specific offering will be set forth in a post-effective amendment to the registration statement of which this prospectus is a part or in a supplement to this prospectus, or may be set forth in one or more documents incorporated by reference into this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with a specific offering. You should read this prospectus, the applicable prospectus supplement and any related free writing prospectuses that we have authorized for use in connection with a specific offering, as well as any documents incorporated by reference in this prospectus and the applicable prospectus supplement, carefully before you invest.

We may offer and sell shares of common stock to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. The supplements to this prospectus will provide the specific terms of the plan of distribution. The net proceeds we expect to receive from sales by us will be set forth in the applicable prospectus supplement.

Our common stock is listed on The NASDAQ Global Market under the trading symbol **SGEN**. On May 21, 2009, the last reported sale price of our common stock was \$8.91 per share.

Investing in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading **Risk Factors** contained in the applicable prospectus supplement and in any related free writing prospectuses that we have authorized for use in connection with a specific offering, and under similar headings in the other documents that are incorporated by reference into this prospectus.

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

The date of this prospectus is May 22, 2009

Table of Contents

TABLE OF CONTENTS

	PAGE
<u>ABOUT THIS PROSPECTUS</u>	1
<u>RISK FACTORS</u>	1
<u>FORWARD-LOOKING STATEMENTS</u>	1
<u>USE OF PROCEEDS</u>	2
<u>DESCRIPTION OF CAPITAL STOCK</u>	3
<u>VALIDITY OF COMMON STOCK</u>	6
<u>EXPERTS</u>	6
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	6

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, using the shelf registration process. By using a shelf registration statement, we may offer and sell from time to time in one or more offerings the common stock described in this prospectus. No limit exists on the aggregate number of shares of common stock we may sell pursuant to the registration statement.

You should rely only on the information contained in, or incorporated by reference into, this prospectus and any applicable prospectus supplement, along with the information contained in any free writing prospectuses that we have authorized for use in connection with a specific offering. We have not authorized anyone to provide you with different information. This document may only be used where it is legal to sell these securities. You should not assume that the information contained in this prospectus, in any applicable prospectus supplement or in any related free writing prospectus, is accurate as of any date other than its date regardless of the time of delivery of the prospectus, prospectus supplement or related free writing prospectus, or any sale of the common stock. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the information in the prospectus supplement.

Seattle Genetics® and are our registered trademarks in the United States. All other trademarks, tradenames and service marks included or incorporated by reference in this prospectus, any accompanying prospectus supplement and any related free writing prospectus are the property of their respective owners.

We urge you to read carefully this prospectus, any applicable prospectus supplement and any related free writing prospectus that we have authorized for use in connection with a specific offering, together with the information incorporated herein by reference as described under the heading *Where You Can Find More Information*, before deciding whether to invest in any of the common stock being offered.

References in this prospectus to Seattle Genetics, we, us and our refer to Seattle Genetics, Inc., a Delaware corporation. Our principal executive offices are located at 21823 30th Drive SE, Bothell, WA 98021 and our telephone number is (425) 527-4000. Our web site address is <http://www.seagen.com>. The information contained in, or that can be accessed through, our web site is not part of, and is not incorporated by reference in, this prospectus.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risk factors identified in any applicable prospectus supplement and in any related free writing prospectuses that we have authorized for use in connection with a specific offering, as well as in our most recent annual and quarterly filings with the SEC, in addition to the other information contained in this prospectus, any applicable prospectus supplement, the documents incorporated by reference herein or therein, and in any free writing prospectuses that we have authorized for use in connection with a specific offering, before deciding whether to purchase any of our common stock. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock, and you may lose all or part of your investment.

FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference contain forward-looking statements that are based on our management's beliefs and assumptions and on information currently available to our management. Discussions containing these forward-looking statements may be found, among other places, in *Business*, *Risk Factors* and *Management's Discussion and Analysis of Financial Condition and Results of Operations* incorporated by reference from our most recent annual report on Form 10-K and in our most recent quarterly

Table of Contents

report on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC. Forward-looking statements include, but are not limited to, statements about:

the development of our product candidates;

the success and timing of our preclinical studies and clinical trials, and the commencement of future clinical trials;

the submission and timing of applications for regulatory approvals;

the establishment and development of collaborative partnerships;

our ability to identify new potential product candidates;

our ability to achieve commercial acceptance of our product candidates if approved for commercial sale;

our ability to scale-up our manufacturing capabilities and facilities;

the use of proceeds from any offering;

our projected financial and operating results;

our projected capital expenditures; and

our liquidity.

In some cases, you can identify forward-looking statements by terms such as *may*, *will*, *should*, *could*, *would*, *expects*, *plans*, *anticipates*, *believes*, *estimates*, *projects*, *predicts*, *potential* and similar expressions intended to identify forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance time frames or achievements to be materially different from any future results, performance, time frames or achievements expressed or implied by the forward-looking statements. We discuss many of these risks, uncertainties and other factors in greater detail under the heading *Risk Factors* contained in the applicable prospectus supplement, in any related free writing prospectuses that we have authorized for use in connection with a specific offering, and in our most recent annual report on Form 10-K and in our most recent quarterly report on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC. Given these risks, uncertainties and other factors, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date such forward-looking statements are made. You should read carefully this prospectus, any applicable prospectus supplement and any related free writing prospectuses that we have authorized for use in connection with a specific offering, together with the information incorporated herein by reference as described under the heading *Where You Can Find More Information*, completely and with the understanding that our actual future results may be materially different from what we expect. We hereby qualify all of our forward-looking statements by these cautionary statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

USE OF PROCEEDS

Except as described in any prospectus supplement or in any related free writing prospectus that we have authorized for use in connection with a specific offering, we anticipate using the net proceeds to us from the sale of our common stock for clinical and preclinical development and manufacturing of existing product candidates, discovery and development of additional product opportunities, capital expenditures and working capital and other general corporate purposes. Although we currently have no commitments or agreements to acquire or invest in complementary businesses, technologies, product candidates or other intellectual property, our management will have broad discretion as to the allocation of the net proceeds received in any offering and may

Table of Contents

use these proceeds for that purpose in the future. Pending use of the net proceeds, we intend to invest the net proceeds in interest-bearing, investment-grade securities.

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 150,000,000 shares of common stock, \$0.001 par value per share, and 5,000,000 shares of preferred stock, \$0.001 par value per share. We may issue shares of our common stock from time to time in one or more offerings. We will set forth in the applicable prospectus supplement a description of the terms of the offering of common stock, including the offering price, the net proceeds to us, and other offering material relating to such offering.

The following summary description of our common and preferred stock is based on the provisions of our fourth amended and restated certificate of incorporation, amended and restated bylaws, the applicable provisions of the Delaware General Corporation Law and the applicable provisions of the Washington Business Corporation Act. This information may not be complete in all respects and is qualified entirely by reference to the provisions of our fourth amended and restated certificate of incorporation, our amended and restated bylaws, the Delaware General Corporation Law and the applicable provisions of the Washington Business Corporation Act. For information on how to obtain copies of our fourth amended and restated certificate of incorporation and our amended and restated bylaws, which are exhibits to the registration statement of which this prospectus forms a part, see [Where You Can Find More Information](#).

Common Stock

As of May 21, 2009, there were 86,818,796 shares of common stock outstanding, held of record by approximately 118 stockholders. The holders of common stock are entitled to one vote per share on all matters to be voted on by the stockholders. Subject to the preferences of any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably any dividends our Board of Directors declares out of funds legally available for the payment of dividends. If we are liquidated, dissolved or wound up, the holders of common stock are entitled to share pro rata all assets remaining after payment of liabilities and liquidation preferences of any outstanding shares of preferred stock. Holders of common stock have no preemptive rights or rights to convert their common stock into any other securities. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are, and the shares of common stock to be offered under this prospectus and applicable prospectus supplements will be, fully paid and nonassessable.

Preferred Stock

As of May 21, 2009, none of the 5,000,000 authorized shares of preferred stock were outstanding. Pursuant to our fourth amended and restated certificate of incorporation, our Board of Directors has the authority, without further action by the stockholders, to issue the shares of preferred stock in one or more series. Our Board of Directors also has the authority to fix the designations, powers, preferences, privileges and relative, participating, optional or special rights and the qualifications, limitations or restrictions of any preferred stock issued, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, any or all of which may be greater than the rights of the common stock. Our Board of Directors, without stockholder approval, may issue preferred stock with voting, conversion or other rights that are superior to the voting and other rights of the holders of common stock. The issuance of preferred stock may have the effect of delaying, deferring or preventing a change of control of Seattle Genetics without further action by the stockholders, and may have the effect of delaying or preventing changes in management of Seattle Genetics. In addition, the issuance of preferred stock may decrease the market price of our common stock.

Table of Contents

Warrants

As of May 21, 2009 we had warrants outstanding to purchase 1,925,000 shares of common stock at an exercise price of \$6.25 per share. The warrants are exercisable in whole or in part at any time on or before December 31, 2011, and expire if not exercised prior to such time. The warrants provide for a cashless exercise by the warrant holder, if available. The warrant exercise price and the number of shares subject to the warrants are subject to adjustment in certain events including: stock subdivisions, combinations, splits, stock dividends, capital reorganizations, or capital reclassifications of our common stock. The preceding summary is qualified in its entirety by reference to the terms and provisions of the form of Warrant attached as an exhibit to our current report on Form 8-K filed with the SEC on May 15, 2003.

Registration Rights

Pursuant to an Investor Rights Agreement, dated July 8, 2003, certain holders of our common stock are entitled to registration rights under the Securities Act with respect to their shares of common stock, as applicable, if we propose to register any of our common stock. Such holders are entitled to notice of the registration and to include shares of their common stock in the registration at our expense. In addition, such holders are entitled to require us to file a registration statement under the Securities Act at our expense. Furthermore, such holders may require us to file additional registration statements on Form S-3 at our expense. All of these registration rights are subject to conditions and limitations, including the right of the underwriters of an offering to limit the number of shares included in such registration and our right to decline to affect such a registration if the anticipated aggregate offering price in such registration is below a minimum amount. Pursuant to the terms of a stock purchase agreement, dated January 27, 2009, we entered into with certain entities affiliated with Baker Brothers Investments, we agreed to use our commercially reasonable efforts to treat the shares issued pursuant to such stock purchase agreement as shares entitled to registration rights under the Investor Rights Agreement.

Anti-takeover Effects of Provisions of Delaware Law, Washington Law and Our Charter Documents

Charter Documents

As noted above, our Board of Directors, without stockholder approval, has the authority under our fourth amended and restated certificate of incorporation to issue preferred stock with rights superior to the rights of the holders of common stock. As a result, the issuance of preferred stock may have the effect of delaying, deferring or preventing a change of control of Seattle Genetics without further action by the stockholders and may adversely affect the voting and other rights of the holders of common stock.

Our fourth amended and restated certificate of incorporation provides for our Board of Directors to be divided into three classes, with staggered three-year terms. As a result, only one class of directors will be elected at each annual meeting of stockholders, with the other classes continuing for the remainder of their respective three-year terms. Stockholders have no cumulative voting rights, and the stockholders representing a majority of the shares of common stock entitled to vote in any election of directors may elect all of the directors standing for election.

Our fourth amended and restated certificate of incorporation also requires that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of the stockholders and may not be effected by a consent in writing, and that the stockholders may amend our bylaws or adopt new bylaws only by the affirmative vote of 66-2/3% of the outstanding voting securities. A special meeting of the stockholders may be called only by our Board of Directors, our Chairman, our President, or by one or more stockholders holding shares in the aggregate entitled to cast not less than 50% of the votes at that meeting. These provisions may have the effect of delaying, deferring or preventing a change in control and may also delay or prevent changes in management of Seattle Genetics, which could have an adverse effect on the market price of our stock.

Table of Contents

These and other provisions are intended to enhance the likelihood of continued stability in the composition of our Board of Directors and to discourage certain types of transactions that may involve an actual or threatened change of control. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, such provisions also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, the statute prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. For purposes of Section 203, a business combination includes a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder, and an interested stockholder is a person who, together with affiliates and associates, owns (or within three years prior, did own) 15% or more of the corporation's voting stock.

Chapter 23B.19 of the Washington Business Corporation Act

We are also subject to the provisions of Chapter 23B.19 of the Washington Business Corporation Act, or the WBCA, that imposes restrictions on certain transactions between a corporation and certain significant stockholders. The WBCA generally prohibits a target corporation (as defined in the WBCA) from engaging in certain significant business transactions with an acquiring person, which is defined as a person or group of persons that beneficially owns 10% or more of the voting securities of the target corporation, for a period of five years after such acquisition, unless the transaction or acquisition of shares is approved by a majority of the members of the target corporation's Board of Directors prior to the time of the acquisition or at or subsequent to the acquiring person's share acquisition time, such significant business transaction is approved by a majority of the members of the target corporation's Board of Directors and authorized at an annual or special meeting of stockholders by the affirmative vote of at least two-thirds of the outstanding voting shares, except for shares beneficially owned by or under the voting control of the acquiring person. Such prohibited transactions include, among other things:

a merger or consolidation with, disposition of assets to, or issuance or redemption of stock to or from, the acquiring person;

termination of 5% or more of the employees of the target corporation as a result of the acquiring person's acquisition of 10% or more of the shares; or

allowing the acquiring person to receive any disproportionate benefit as a stockholder.

After the five-year period, a significant business transaction may occur if it complies with fair price provisions specified in the statute. A corporation may not opt out of this statute. Depending on whether Seattle Genetics meets the definition of a target corporation under the WBCA, Chapter 23B.19 of the WBCA may have the effect of delaying, deterring or preventing a change in control of Seattle Genetics.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Mellon Investor Services LLC. Its address is P.O. Box 3316, South Hackensack, NJ 07606 and its telephone number is (800) 522-6645.

NASDAQ Global Market Listing

Our common stock is listed on The NASDAQ Global Market under the symbol SGEN.

Table of Contents

VALIDITY OF COMMON STOCK

The validity of the shares of common stock offered hereby will be passed upon for us by Cooley Godward Kronish LLP, Seattle, Washington, and for any underwriters, dealers or agents by counsel named in the applicable prospectus supplement. As of the date of this prospectus, certain partners and associates of Cooley Godward Kronish LLP own an aggregate of approximately 7,496 shares of our common stock. Sonya F. Erickson, a partner of Cooley Godward Kronish LLP, serves as our Assistant Secretary.

EXPERTS

The financial statements and management's assessment of the effectiveness of our internal control over financial reporting (which is included in Management's Report on Internal Control Over Financial Reporting) incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2008 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the SEC. This prospectus is part of a registration statement on Form S-3 filed by us with the SEC under the Securities Act of 1933, as amended. As permitted by the SEC, this prospectus does not contain all the information in the registration statement filed with the SEC. For a more complete understanding of an offering of our common stock, you should refer to the complete registration statement on Form S-3 that may be obtained from the location described below. You may read and copy the registration statement, as well as our reports, proxy statements and other information, at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including Seattle Genetics. The SEC's Internet site can be found at <http://www.sec.gov>.

The SEC allows us to incorporate by reference information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus and any accompanying prospectus supplement. We incorporate by reference the following information or documents that we have filed with the SEC (Commission File No. 0-32405):

our Annual Report on Form 10-K for the year ended December 31, 2008 filed with the SEC on March 13, 2009;

the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2008 from our definitive proxy statement on Schedule 14A, filed with the SEC on April 9, 2009;

our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2009 filed with the SEC on May 8, 2009;

our Current Reports on Form 8-K filed with the SEC on January 21, 2009, January 26, 2009, January 27, 2009, January 28, 2009, February 19, 2009 and May 21, 2009 (other than any portions of these reports furnished but not filed pursuant to SEC rules and the exhibits filed on such form that relate to such portions); and

the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on February 28, 2001, including any amendments or reports filed for the purpose of updating such description.

Table of Contents

Any information in any of the foregoing documents will automatically be deemed to be modified or superseded to the extent that information in this prospectus or in a later filed document that is incorporated or deemed to be incorporated herein by reference modifies or replaces such information.

We also incorporate by reference any future filings (other than Current Reports on Form 8-K furnished under Item 2.02 or Item 7.01 thereof and exhibits filed on such form that are related to such items) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

You may request a copy of any or all of the documents incorporated by reference (including exhibits to these documents), at no cost, by telephoning our Investor Relations department at (425) 527-4000 or writing us at:

Investor Relations

Seattle Genetics, Inc.

21823 30th Drive SE

Bothell, WA 98021

Table of Contents

9,000,000 Shares

COMMON STOCK

PROSPECTUS SUPPLEMENT

J.P.Morgan

Goldman, Sachs & Co.

Needham & Company, LLC

Oppenheimer & Co.

RBC Capital Markets

William Blair & Company

The date of this prospectus supplement is August , 2009