

COMPLETE GENOMICS INC

Form 424B5

March 12, 2012

Table of Contents

Filed Pursuant to Rule 424(b)(5)

Commission File No. 333-178728

PROSPECTUS SUPPLEMENT

(To Prospectus dated January 24, 2012)

\$30,000,000

Complete Genomics, Inc.

Common Stock

We have entered into a sales agreement with MLV & Co. LLC, or MLV, relating to shares of our common stock offered by this prospectus supplement and the accompanying prospectus. In accordance with the terms of the sales agreement, we may offer and sell shares of our common stock, \$0.001 par value per share, having an aggregate offering price of up to \$30 million from time to time on The NASDAQ Global Market or other market for our common stock in the U.S. through MLV acting as our agent.

Our common stock is listed on The NASDAQ Global Market under the symbol GNOM . On March 8, 2012, the last reported sale price of our common stock on The NASDAQ Global Market was \$3.83 per share.

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus may be made in sales deemed to be at-the-market offerings as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, or the Securities Act, including sales made directly on or through The NASDAQ Global Market or other market for our common stock in the U.S., sales made to or through a market maker other than on an exchange or otherwise, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or any other method permitted by law. MLV will act as sales agent on a commercially reasonable efforts basis consistent with its normal trading and sales practices. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

MLV will be entitled to compensation at a commission rate of up to 3% of the gross sales price per share sold. In connection with the sale of the our common stock on our behalf, MLV may be deemed to be an underwriter within the meaning of the Securities Act, and the compensation of MLV may be deemed to be underwriting commissions or discounts.

Before buying shares of our common stock, you should carefully consider the risk factors described in Risk Factors beginning on page S-10 of this prospectus supplement and the risk factors described in the documents incorporated by reference herein.

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

The date of this prospectus supplement is March 9, 2012.

Table of Contents**Table of Contents**

	Page
Prospectus Supplement	
<u>About this Prospectus Supplement</u>	S-i
<u>Prospectus Supplement Summary</u>	S-1
<u>Risk Factors</u>	S-10
<u>Forward-Looking Statements</u>	S-11
<u>Use of Proceeds</u>	S-12
<u>Dilution</u>	S-13
<u>Plan of Distribution</u>	S-14
<u>Legal Matters</u>	S-15
<u>Experts</u>	S-15
<u>Where You Can Find More Information</u>	S-15
<u>Incorporation by Reference</u>	S-15
Prospectus	
<u>About this Prospectus</u>	1
<u>About Complete Genomics</u>	1
<u>Where You Can Find More Information</u>	2
<u>Incorporation by Reference</u>	2
<u>Forward-Looking Statements</u>	3
<u>Risk Factors</u>	4
<u>Ratio of Earnings to Fixed Charges</u>	4
<u>Use of Proceeds</u>	4
<u>Description of Common Stock</u>	5
<u>Description of Preferred Stock</u>	8
<u>Description of Debt Securities</u>	10
<u>Description of Warrants</u>	17
<u>Global Securities</u>	18
<u>Plan of Distribution</u>	21
<u>Certain Provisions of Delaware Law and of the Company's Certificate of Incorporation and Bylaws</u>	23
<u>Legal Matters</u>	24
<u>Experts</u>	24

About this Prospectus Supplement

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering. We have not, and MLV has 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 MLV is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. 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 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 to which we have referred you in the sections of this prospectus supplement entitled "Where You Can Find More Information" and "Incorporation by Reference."

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus. The second part, the

Table of Contents

accompanying prospectus dated January 24, 2012, including the documents incorporated by reference therein, provides more general information, some of which may not apply to this offering. 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.

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

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

This prospectus supplement, the accompanying prospectus, and the information incorporated herein and therein by reference, include trademarks, service marks and trade names owned by us (including but not limited to our logo, Complete Genomics, Complete Genomics Analysis Platform, CGA Platform, CGATools, cPAL and DNB) or other companies. All trademarks, service marks and trade names included incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement and the accompanying prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference in this prospectus supplement and the accompanying prospectus, the information included in any free writing prospectus that we have authorized for use in connection with this offering, and the information referred to under the heading "Risk Factors" in this prospectus supplement on page S-10, in the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement.

Our Company

We are a life sciences company that has developed and commercialized an innovative DNA sequencing platform. Our goal is to become the preferred solution for whole human genome sequencing and analysis. Our Complete Genomics Analysis Platform, or CGA™ Platform, combines our proprietary human genome sequencing technology with our advanced informatics and data management software and our innovative, end-to-end, outsourced service model to provide our customers with data that is immediately ready to be used for genome-based research. We believe that our solution can provide academic, biopharmaceutical and translational medicine researchers with whole human genome data and analysis at an unprecedented combination of quality, cost and scale without requiring them to invest in in-house sequencing instruments, high-performance computing resources and specialized personnel. By removing these constraints and broadly enabling researchers to conduct large-scale whole human genome studies, we believe that our solution has the potential to significantly advance medical research and expand understanding of the basis, treatment and prevention of complex diseases.

We believe that our whole human genome sequencing technology, which is based on our proprietary DNA arrays and ligation-based read technology provides a superior combination of quality, costs and scale when compared to existing commercially available whole human genome sequencing platforms. In the DNA sequencing industry, whole human genome sequencing is generally deemed to be coverage of at least 90% of the nucleotides in the genome. Because we have optimized our technology platform and our operations for the unique requirements of high-throughput whole human genome sequencing, we are able to achieve accuracy levels in excess of 99.999% at a total cost that is significantly less than the total cost of purchasing and using commercially available DNA sequencing instruments and information process technology and then performing all the required sequence data assembly and analysis. We believe that we will be able to further improve our accuracy levels and reduce the total cost of sequencing and analysis, enabling us to maintain significant competitive advantages over the next several years. Because our technology resides only in our centralized facilities, we can quickly and easily implement enhancements and provide their benefits to our entire customer base. Our goal is to be the first company to sequence and analyze high-quality whole human genomes, at scale, for a total cost of under \$1,000 per genome.

From the earliest days of the field of genomic sequencing to the present, companies and organizations that have achieved sequencing milestones in quality, cost and scale have immediately announced and/or published these sequencing results. We regularly and actively monitor publications and have compared the parameters of our sequencing process and the sequencing results of competitive commercially available technologies announced in these various publications. We are currently unaware of any scientific publications by competitors publicly announcing superior sequencing results. Based on the above, we believe that our complete human genome sequencing technology provides a superior combination of quality, cost and scale when compared to existing commercially available complete genome sequencing methods, when taking into consideration the total cost of purchasing, operating and maintaining the instruments and information systems necessary for complete human genome sequencing.

While our competitors primarily sell DNA sequencing instruments and reagents that produce raw sequenced data, requiring their customers to invest significant additional resources to process that raw data into a form usable for research, we offer our customers an end-to-end, outsourced solution that delivers research-ready genomic data. As

Table of Contents

the cost of complete human genome sequencing continues to decline, we believe the basis of competition in our industry will shift from the cost of sequencing to the value of the entire sequencing solution, including time to delivery, data accuracy and data management solutions. We believe that our integrated advanced informatics and data management services will emerge as a key competitive advantage as this shift occurs.

Our genome sequencing center, which began commercial operations in May 2010, combines a high-throughput sample preparation facility, a collection of our proprietary high-throughput sequencing instruments and a large-scale data center. Our customers ship us their samples via common carrier services such as Federal Express and United Parcel Service. We then sequence and analyze these samples and provide our customers with finished, research-ready data, enabling them to focus exclusively on their single highest priority, discovery.

Our customers include some of the leading academic research centers, government research centers, biopharmaceutical companies, and healthcare providers. At present, our facility has the capacity to sequence and analyze approximately 1,000 whole human genomes per month at 40x coverage. We expect this capacity to approximately double by year-end 2012 as we deploy additional sequencers and increase the throughput of our facility through process improvements. In future years, we plan to construct additional genome centers in the United States and other international strategic markets to accommodate an expected growing global demand for whole human genome sequencing on a large scale.

Our Industry

Studying how genes and proteins differ between species and among individuals within a species, or genetic variations, helps scientists determine their functions and roles in health and disease and, we expect, will continue to drive advancements in medical research and diagnostics. Genetic analysis products comprise instruments and consumables, as well as associated hardware, software and services directly involved in the study of DNA and RNA. Scientia Advisors, a third-party research firm, estimated genomic revenue in 2009 to be approximately \$5.8 billion and projects the market to grow to approximately \$9.0 billion by 2014. Scientia Advisors further estimates that human genomics research will grow from \$4.6 billion in 2009 to \$7.3 billion in 2014.

The primary genetic analysis methods traditionally used by genetic researchers fall into three categories: DNA sequencing, genotyping and gene expression analysis. DNA sequencing is the process of determining the exact order, or sequence, of the individual nucleotides in a DNA strand so that this information can be correlated to the genetic activity influenced by that segment of DNA. Genotyping is the process of examining certain known mutations or variations in the DNA sequence of genes to determine whether the particular variant can be associated with a specific disease susceptibility or drug response. Gene expression analysis is the process of examining the molecules that are produced when a gene is activated, or expressed, to determine whether a particular gene is expressed in a specific biological tissue.

The Importance of Whole Human Genome Sequencing and the Limitations of Existing Technologies

One of the most difficult challenges facing the genetic research and analysis industry is improving our understanding of how genes contribute to diseases that have a complex pattern of inheritance. For many diseases, multiple genes each make a subtle contribution to a person's predisposition or susceptibility to a disease or response to a drug treatment protocol. Accordingly, we believe that unraveling this complex network will be critical to understanding human health and disease. We believe that sequencing whole human genomes is the most comprehensive and accurate method by which to achieve these objectives and improve our understanding of human disease. However, the cost and complexity associated with whole human genome sequencing have been prohibitively high for researchers and have slowed our progress in understanding the genetic underpinnings of disease.

Innovations in DNA sequencing have led to the development of high-throughput sequencing technologies, commonly referred to as next-generation or second-generation sequencing, which produce thousands to millions of sequences at once. Although second-generation sequencing technologies have led to dramatic reductions in cost and improvements in quality and throughput for complete human genome sequencing, they were designed as general-

Table of Contents

purpose instruments for sequencing the DNA or RNA of plants, animals, bacteria and viruses. We believe the key limitations of the model of purchasing and using second-generation technologies for sequencing large numbers of complete human genomes include the following:

High Cost. Laboratories using commercially available DNA sequencing instruments cannot sequence complete human genomes at a price low enough to make large-scale projects affordable to researchers.

Insufficient Scale and Speed. Laboratories using commercially available DNA sequencing instruments typically require months to sequence all of the genomes for large projects.

Difficulty of Data Management. Many users of commercially available DNA sequencing instruments lack the costly computing resources, storage capacity, network bandwidth and specialized personnel to process and analyze the massive data sets generated by sequencing complete human genomes.

Our Solution

We have developed a novel approach focused on whole human genome sequencing. We combine our proprietary human genome sequencing technology, which achieves accuracy levels in excess of 99.999%, with our advanced informatics and data management software and our innovative, end-to-end service model, to deliver research-ready genomic data at a total cost that is significantly less than the total cost of purchasing and using commercially available DNA sequencing instruments and the required information management hardware and software.

Proprietary Sequencing Technology

There are two primary components of our proprietary human genome sequencing technology: DNA nanoball, or DNB, arrays and combinatorial probe-anchor ligation, or cPAL, reads. Our patterned DNB arrays, due to their small size and biochemical characteristics, enable us to pack DNA very efficiently on a silicon chip. We have developed a proprietary process that causes the DNA to adhere to desired spots on the chip, while conversely preventing the DNA from adhering to the area between these spots. This enables us to affix individual particles of DNA to over 90% of these spots. In addition, we have developed a highly accurate cPAL read technology, which enables us to read the DNA fragments efficiently using small concentrations of low-cost reagents while retaining extremely high single-read accuracy. As reported in the January 2010 edition of *Science*, we sequenced a whole human genome with a consensus accuracy of 99.999% and a consumables cost of approximately \$1,800. To our knowledge, based on our review of scientific publications in the genome sequencing field, there are no commercially available technologies that have achieved the accuracy comparable to our sequencing results. Our accuracy was further validated by the Institute for Systems Biology, or ISB, as published in *Science Express* in March 2010. We have identified and are developing additional performance enhancements to our core technologies that we believe will enable us to maintain a significant competitive advantage in terms of our combination of quality, cost and scale.

Advanced Informatics and Data Management Software

Sequencing whole human genomes generates substantial amounts of data that must be managed, stored and analyzed. While many users of instrument-based sequencing systems have historically conducted their own in-house data analysis on a limited number of genomes, many of these users lack the computing, storage and network bandwidth necessary to manage the massive data sets generated by larger scale whole human genome studies. In response to this need by our customers, we have built a genomic data processing facility with computing infrastructure for managing both small- and large-scale genomic sequencing projects.

There are two major components of our data management solution: assembly software and analysis software. Assembly is the process of using computers to organize all of the overlapping 70-base nucleotide sequences to reconstruct the complete human genome. Our proprietary assembly software uses advanced data analysis algorithms and statistical modeling techniques to make high confidence calls of an average of over 97% of the genome and over 96% of the exome from approximately two billion 70-base reads. After assembling the genomic data, we use our analysis software to identify and annotate key differences, or variants, in each genome.

Table of Contents

By using our analytical tools and data management software, our customers can significantly reduce their investments in computing infrastructure. Our customers are provided with reliable access to assembled and annotated sequence data in multiple formats to ease data sharing and comparative analyses. In addition, our data storage options provide flexibility and allow customers to customize their data management strategy based on their particular business and scientific requirements. We have also developed a suite of open source analytical tools, called CGA™ Tools, designed to enable our customers to rapidly analyze the data we generate from their samples. As the reagent cost of sequencing declines, we believe that the cost and complexity of data analysis and management will emerge as the primary limiting factor for conducting whole human genome analysis.

Innovative, End-to-End, Outsourced Solution

While our competitors primarily sell DNA sequencing instruments and reagents that produce raw sequenced data, requiring their customers to invest significant additional resources to process that raw data into a form usable for research, we offer our customers an end-to-end, outsourced solution that delivers research-ready genomic data. Our genome sequencing center combines a high-throughput sample preparation facility, a collection of our proprietary high-throughput sequencing instruments and a large-scale data center. Our customers ship us their samples via common carrier services such as Federal Express and United Parcel Service. We then sequence and analyze these samples and provide our customers with finished, research-ready genomic data, enabling them to focus exclusively on their single highest priority, discovery.

Our customers are not required to purchase expensive sequencing instruments and high-performance computing resources to sequence and analyze large sets of whole human genomes. Our outsourced service model enables our customers to offload to us the complex processes of sample preparation, sequencing, computing and data storage and management. We believe our services will expand the potential addressable market by enabling a broad base of researchers who may lack sufficient capital and the specialized personnel necessary to build and operate a sequencing laboratory, or who have historically been constrained by the high total cost of sequencing, to conduct large-scale whole human genome studies.

We believe our end-to-end solution provides the following advantages to our customers:

High-Quality Data. Our technology delivers what we believe is the industry's highest accuracy whole human genome data.

Cost-Savings. Our customers are not required to purchase expensive sequencing instruments and high-performance computing resources or hire the necessary specialized personnel to sequence and analyze large sets of whole human genome data.

Speed at Scale. Our customers can often complete their large-scale projects more quickly by using our services than by purchasing and operating commercially available sequencing instruments.

Ease of Use. We believe our customers can avoid the difficulty and time-consuming process of purchasing and operating their own sequencing instruments and can outsource the entire process to us, from sample preparation to delivery of research-ready data.

Operational Flexibility. By outsourcing their large-scale whole human genome sequencing projects to us, our customers can free up the capacity of in-house instruments to run smaller or more targeted sequencing projects and applications.

Technological Flexibility. As DNA sequencing technology improves, our customers have available to them the latest technology that we have developed, and they avoid the risk of their expensive instruments becoming technologically obsolete.

Table of Contents

Enables Customers to Focus on Discovery. Outsourcing offloads the operational burdens of managing large-scale genome sequencing projects and enables our customers to focus their resources on research, which can reduce the time to discovery.

We have more than 125 past and current customers, which include some of the leading global academic and government research centers and biopharmaceutical companies. Our project with SAIC-Frederick, Inc., the prime contractor for the National Cancer Institute's research and development facility in Frederick, Maryland, involves sequencing and analyzing more than 600 tumor-normal pairs, comprising over 1,200 whole human genomes, to identify patterns relating to the genesis of cancerous tumors in children. This study may potentially lead to improved diagnosis and treatment of pediatric cancers. This project forms part of the National Cancer Institute's Therapeutically Applicable Research to Generate Effective Treatments, or TARGET, Initiative. TARGET seeks to use genomic technologies to rapidly identify valid therapeutic targets in childhood cancers so that new, more effective treatments can be developed. It is currently focusing on five childhood cancers: acute lymphoblastic leukemia, acute myeloid leukemia, neuroblastoma, osteosarcoma and Wilms tumor. Our project with the Inova Health System, a not-for-profit health care system based in Northern Virginia, involves sequencing 1,500 genomes from 500 babies and their parents. The goal of this project is to identify prognostic, diagnostic and therapeutic targets for pre-term delivery and potentially other obstetrics associated abnormalities. The study may also help provide the framework to enable Inova to begin to use genomic data to customize care within Inova's hospital network. Data from Inova Health System's electronic medical record system will support outcomes-based research on this cohort.

Applications for Our Sequencing Service

Potential applications for our whole human genome sequencing service include:

Cancer Research. Researchers are sequencing cancer genomes and comparing them to normal genomes, which are referred to as tumor-normal pairs, to identify the mutations in cancer genomes. We believe understanding these mutations will guide development of new cancer therapeutics and diagnostics and enable doctors to select the best course of therapy based on the specific mutations found in a tumor.

Mendelian Disease Research. There are thousands of Mendelian inherited diseases that have been found to run in families, and are accordingly likely to have a significant genetic component. However, the genetic cause of most of these diseases is currently unknown. By sequencing the whole genomes of the affected families, we believe the genetic causes of these Mendelian diseases can be discovered, which could lead to the development of novel diagnostics and therapeutics.

Rare Variant Disease Research. Diseases such as central nervous system disorders, cardiac disease, certain metabolic disorders, and other diseases that appear broadly in the population are thought to be caused by rare variants. Large-scale studies of affected individuals may help to identify the disrupted pathways and lead to the development of novel diagnostics and therapeutics.

Translational Research. We believe that over time, healthcare systems will use genomic data to direct an individual's medical care. Leading institutions are beginning to conduct research aimed at identifying how best to use the knowledge of the genome to improve patient healthcare and achieve cost savings in the delivery of healthcare.

Clinical Trial Optimization. We believe that selecting or stratifying patients on the basis of their genetic profiles could enable the preferential admission of high responders into a clinical trial. This stratification could enable the trial to reach its conclusion with fewer patients and lower costs and result in faster clinical trials and drug commercialization.

Companion Diagnostic Discovery. We believe that therapeutics that are not first-line treatments for the general population may be elevated to first-line treatments or used in combination therapies for subsets of the population that share a common genetic profile. Whole human genome studies may unlock new market opportunities for these therapies or combination therapies.

Table of Contents

In addition to these research applications, we expect future clinical applications to include:

Idiopathic Disease Pediatric Diagnostics. We believe that sequencing the whole genome of idiopathic sick children, or children the cause of whose sickness is unknown, could identify genomic mutations as well as complex interaction pathways that cannot be discovered by only analyzing selected areas of the genome. This approach may result in more rapid diagnosis and better patient care.

Cancer Pathology. We believe that whole human genome sequencing will be the most reliable and economic way to analyze complex cancer genomes that involve large and unpredictable structural changes. In the United States alone, there are approximately 1.5 million new cases of cancer diagnosed each year according to the National Cancer Institute.

Universal Diagnostics. As medical records technology and public health policy advance, we believe that large numbers of people will have their whole human genomes sequenced and stored for use by their physicians in managing their health care decisions.

Competitive Strengths

We believe that our competitive strengths are as follows:

Proprietary Human Genome Sequencing Technology. Our proprietary sequencing technology achieves accuracy levels of 99.999% at a total cost that is significantly less than the total cost of purchasing and operating commercially available DNA sequencing instruments and the necessary information processing technology, and then performing all the required sequence data assembly and analysis.

Fully Integrated Advanced Informatics and Data Management Software. Our solution enables our customers to manage and gain useful information from the massive data sets generated in complete human genome sequencing.

Highly Scalable and Capital-Efficient Business Model. Consolidating volume across our entire customer base enables us to sequence large numbers of genomes while avoiding the cost and complexity of employing a large field installation and support organization. By implementing a high degree of automation, we have reduced the possibility of human errors that could adversely affect quality and increase costs.

Unique Insight Into Customer Needs. We interact directly with our customers on their discovery projects, which enables us to develop and enhance our analysis software to meet our customers' specific needs while expanding our understanding of variation in the human genome.

Fast and Efficient Deployment of Operational and Technological Enhancements. Because our sequencing operations and data center are centralized, we can rapidly upgrade our technology and deliver the benefits to our customers. In addition, our access to genomic data allows our software engineers to continually refine and improve our software with each genome we sequence.

Expanded Market Opportunity. We believe our outsourced model will expand the potential addressable market by providing academic and biopharmaceutical researchers who lack sufficient budgets or the specialized personnel necessary to build and operate a sequencing laboratory with access to high-quality, low-cost complete human genome data.

Table of Contents

Our Strategy

Our goal is to improve human health by providing genomic information to understand, prevent, diagnose and treat diseases and conditions. We intend to become the preferred solution for whole human genome sequencing and analysis by:

Continuing to Deliver the Highest Quality Genomic Data and Analysis at a Low Total Cost. By continuing to deliver the highest quality research-ready data and by enabling our customers to avoid the cost, complexity and risks associated with purchasing and operating the instruments and computing resources required to undertake whole human genome sequencing, our goal is to become the preferred solution for our customers.

Maintaining and Strengthening our Technology. We plan to continue to conduct research and product development activities to further improve quality, reduce costs, increase throughput and reduce our turnaround time. We plan to further develop the biochemistry, informatics, instrumentation and software that we believe together make up the industry's most robust solution. We will also seek to continually improve our operational processes and analysis software.

Capitalizing on our Scalable Model. Due to the highly scalable nature of our service model, we believe we are well positioned to serve customers looking to sequence a small number of genomes as well as customers who are looking to rapidly sequence a very large number of genomes.

Establishing Ourselves as the Leader in Outsourced Whole Human Genome Sequencing. We intend to continue to focus exclusively on whole human genome sequencing. We believe that this focus will put us in a strong position to become the preferred platform for whole human genome sequencing.

Developing Clinical Applications for the Use of our Technology. While our current focus is on providing whole human genome solutions primarily to academic, biopharmaceutical, and translational medicine researchers, we expect to develop clinical applications for whole genome sequencing for use in idiopathic pediatric disease diagnosis, cancer pathology, and ultimately, as a universal diagnostic.

Exploring Strategic Partnerships and Collaborations. We expect to establish strategic partnerships and collaborations with commercial and research organizations to leverage our genome sequencing technology with the strengths of these organizations to further develop and expand the applications for our sequencing technology.

Expanding Globally to Increase Capacity and Reach New Markets. We expect to enter into partnership agreements with domestic and international organizations to build additional genome sequencing centers around the world. These genome sequencing centers will increase our sequencing capacity, provide us with improved access to global markets and expand our revenue opportunities.

Risks Associated with our Business

Our business is subject to numerous risks, as discussed more fully in the section entitled "Risk Factors" immediately following this prospectus supplement summary. These risks include the following, among others:

We are an early, commercial-stage company and have a limited operating history, which may make it difficult to evaluate our current business and predict our future performance.

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

We will require substantial additional funding and may be unable to raise capital when needed, which could force us to delay, reduce or cancel certain business objectives or we may be unable to continue as a going concern.

S-7

Table of Contents

We have a history of losses, and we may not achieve or sustain profitability in the future, on a quarterly or annual basis.

Our only source of revenue is our human genome sequencing service, which is a new business model in an emerging industry, and failure to achieve market acceptance will harm our business.

Our order backlog may never be completed, and we may never earn revenue on backlogged contracts to sequence genomes. In addition, the timing of the conversion of our order backlog into revenue is dependent on the timing of receipt of samples from our customers.

The presence or absence in a specific quarter of one or more new large orders, our ability to process orders or the cancellation of previous orders, may cause our results of operations and backlog to fluctuate significantly on a quarterly basis.

Our success depends on the growth of markets for analysis of genetic variation and biological function, and the shift of these markets to whole human genome sequencing.

We face significant competition. Our failure to compete effectively could adversely affect our sales and results of operations.

We must significantly increase our production capabilities in order to achieve profitability.

If our Mountain View genome sequencing facility becomes inoperable, we will be unable to perform our genome sequencing services and our business will be harmed.

We currently are, and could in the future be, subject to litigation regarding patent and other proprietary rights that could harm our business.

Corporate Information

We were incorporated in the state of Delaware on June 14, 2005. The address of our principal executive offices is 2071 Stierlin Court, Mountain View, California 94043, and our telephone number is (650) 943-2800. Our website address is www.completegenomics.com. We do not incorporate the information on, or that can be accessed through, our website into this prospectus supplement or the accompanying prospectus, and you should not consider it part of this prospectus supplement or the accompanying prospectus.

Table of Contents

The Offering

Common stock offered by us in this offering	Shares of our common stock, par value \$0.001 per share, having an aggregate offering price of up to \$30 million.
Manner of offering	At-the-market offering that may be made from time to time on The NASDAQ Global Market or other market for our common stock in the U.S. through our agent, MLV & Co. LLC. See the section entitled Plan of Distribution in this prospectus supplement.
Use of proceeds from this offering	We intend to use the net proceeds from this offering for general corporate purposes, which may include funding research and development, increasing our working capital, reducing indebtedness, acquisitions or investments in businesses, products or technologies that are complementary to our own, and capital expenditures. Pending these uses, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing securities. See the section entitled Use of Proceeds in this prospectus supplement.
Risk factors	You should read the Risk Factors section of this prospectus supplement, in the accompanying prospectus and in the documents incorporated by reference in this prospectus supplement for a discussion of factors to consider before deciding to purchase shares of our common stock.
NASDAQ Global Market symbol	GNOM

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 Annual Report on Form 10-K for the year ended December 31, 2011, which is incorporated by reference in this prospectus supplement in its entirety, together with other information in this prospectus supplement, the accompanying prospectus and the information and documents incorporated herein and therein by reference, and 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 you do not agree with or 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 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.

The price per share of our common stock being offered may be higher than the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 7,832,898 shares are sold at a price of \$3.83 per share, the last reported sale price of our common stock on The NASDAQ Global Market on March 8, 2012, for aggregate proceeds of \$30 million in this offering, and after deducting commissions and estimated aggregate offering expenses payable by us, you will suffer immediate and substantial dilution of \$1.12 per share, representing the difference between the as adjusted net tangible book value per share of our common stock as of December 31, 2011 after giving effect to this offering and the assumed offering price. 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.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering. As of December 31, 2011, 3,422,336 shares of common stock were reserved for future issuance under our 2006 Equity Incentive Award Plan, as amended, or the 2006 Plan, our 2010 Equity Incentive Plan, or the 2010 Plan, and our Employee Stock Purchase Plan, or ESPP, and 15,003 shares of common stock were issuable upon the vesting of outstanding restricted stock units. As of that date, there were also options outstanding to purchase 4,101,953 shares of our common stock and 1,533,823 warrants outstanding to purchase shares of our common stock. You will incur additional dilution upon the grant of any shares under the 2006 Plan or the 2010 Plan, upon vesting of any outstanding restricted stock units, or upon exercise of any outstanding stock options or warrants.

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 in this prospectus supplement or the accompanying prospectus 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 and within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are subject to the safe harbor created by those sections. These forward-looking statements involve risks and uncertainties and are contained principally in the sections entitled Prospectus Supplement Summary, Risk Factors, and Business. These statements relate to future events or our future financial or operational performance and involve known and unknown risks, uncertainties and other factors that could cause our actual results, levels of activity, performance or achievement to differ materially from those expressed or implied by these forward-looking statements. These risks and uncertainties are contained principally in the section entitled Risk Factors.

Forward-looking statements include all statements that are not historical facts. In some cases, you can identify forward-looking statements by terms such as may, will, should, intend, could, would, continue, expect, plan, anticipate, believe, estimate, project, negative of those terms, and similar expressions and comparable terminology intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date of this prospectus, and, except as required by law, we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise after the date of this prospectus supplement or the accompanying prospectus, as applicable, or that any information incorporated by reference in this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date of the document so incorporated by reference. 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.

This prospectus supplement, the accompanying prospectus, the documents we have filed with the SEC that are incorporated by reference in this prospectus supplement or the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering also contain estimates and other information concerning our current and target markets that are based on industry publications, surveys and forecasts, including those generated by Scientia Advisors. These estimates and information involve a number of assumptions and limitations, and you are cautioned not to give undue weight to these estimates and information. These industry publications, surveys and forecasts generally indicate that their information has been obtained from sources believed to be reliable. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in Risk Factors. These and other factors could cause actual results to differ materially from those expressed in these publications, surveys and forecasts.

You should rely only on the information contained, or incorporated by reference, in this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering. We and MLV have not authorized anyone to provide you with different information. The common stock offered under this prospectus supplement and the accompanying prospectus is not being offered in any state where the offer is not permitted.

Table of Contents

USE OF PROCEEDS

The amount of proceeds from this offering will depend upon the number of shares of our common stock sold and the market price at which they are sold. There can be no assurance that we will be able to sell any shares under or fully utilize the sales agreement with MLV as a source of financing. We intend to use the net proceeds from this offering for general corporate purposes, which may include funding research and development, increasing our working capital, reducing indebtedness, acquisitions or investments in businesses, products or technologies that are complementary to our own, and capital expenditures. We may also use a portion of the net proceeds from this 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 commercial success of our CGA Platform, as well as the amount of cash used in our operations. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses of the proceeds from this offering. Accordingly, we will retain broad discretion over the use of such proceeds. Pending the use of the net proceeds from this offering as described above, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing securities. We cannot predict whether the proceeds invested will yield a favorable return, if any.

S-12

Table of Contents**DILUTION**

Our net tangible book value as of December 31, 2011 was approximately \$82.4 million, or \$2.47 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 December 31, 2011. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the as adjusted net tangible book value per share of our common stock immediately after giving effect to this offering.

After giving effect to the sale of our common stock in the aggregate amount of \$30 million in this offering at an assumed offering price of \$3.83, the last reported sale price of our common stock on The NASDAQ Global Market on March 8, 2012, and after deducting commissions and estimated aggregate offering expenses payable by us, our as adjusted net tangible book value as of December 31, 2011 would have been approximately \$111.7 million, or \$2.71 per share. This represents an immediate increase in net tangible book value of \$0.24 per share to existing stockholders and immediate dilution in net tangible book value of \$1.12 per share to new investors purchasing our common stock in this offering. The following table illustrates this dilution on a per share basis:

Assumed public offering price per share		\$ 3.83
Net tangible book value per share as of December 31, 2011	\$	2.47
Increase per share attributable to new investors	\$	0.24
As adjusted net tangible book value per share after this offering		\$ 2.71
Dilution per share to new investors		\$ 1.12

The shares sold in this offering, if any, will be sold from time to time at various prices. An increase of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$3.83 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$30 million is sold at that price, would increase our as adjusted net tangible book value per share after the offering to \$2.77 per share and would increase the dilution in net tangible book value per share to new investors to \$1.56 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$3.83 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$30 million is sold at that price, would increase our as adjusted net tangible book value per share after the offering to \$2.63 per share and would decrease the dilution in net tangible book value per share to new investors to \$0.70 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

The above discussion and table are based on 33,409,638 shares of common stock outstanding as of December 31, 2011, and exclude as of that date:

4,101,953 shares of common stock issuable upon the exercise of outstanding options, at a weighted average exercise price of \$6.06 per share;

1,533,823 shares of common stock issuable upon the exercise of outstanding warrants, at a weighted average exercise price of \$2.29 per share;

15,003 shares of common stock issuable upon the vesting of outstanding restricted stock units; and

3,422,336 shares of common stock reserved for future issuance under the 2006 Plan, the 2010 Plan and the ESPP.

To the extent that outstanding options or warrants are exercised or outstanding restricted stock units vest, investors purchasing our common stock in this offering 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.

Table of Contents

PLAN OF DISTRIBUTION

We have entered into an At Market Issuance Sales Agreement, or the sales agreement, with MLV & Co. LLC, or MLV, under which we may issue and sell shares of our common stock having aggregate sales proceeds of up to \$30 million from time to time on The NASDAQ Global Market or other market for our common stock in the U.S. through MLV acting as agent. The sales agreement has been filed as an exhibit to a Current Report on Form 8-K filed under the Exchange Act and incorporated by reference in this prospectus supplement. MLV may sell the common stock by any method that is deemed to be an at-the-market equity offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, or the Securities Act, including sales made directly on or through The NASDAQ Global Market or any other existing trading market for our common stock in the U.S. or to or through a market maker. MLV may also sell the common stock in privately negotiated transactions, subject to our prior approval. We may instruct MLV not to sell our common stock if the sales cannot be effected at or above the price designated by us from time to time. We or MLV may suspend the offering of our common stock upon notice and subject to other conditions. As an agent, MLV will not engage in any transactions that stabilize the price of our common stock.

We will pay MLV commissions for its services in acting as agent in the sale of our common stock. MLV will be entitled to compensation at a commission rate of up to 3% of the gross sales price per share sold. Because there is no minimum offering amount required as a condition to closing this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time.

We estimate that the total expenses for the offering, excluding compensation payable to MLV under the terms of the sales agreement, will be approximately \$75,000.

Settlement for sales of our common stock will occur on the third business day following the date on which any sales are made, or on some other date that is agreed upon by us and MLV in connection with a particular transaction, in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

MLV will act as sales agent on a commercially reasonable efforts basis consistent with its normal trading and sales practices. In connection with the sale of the common stock on our behalf, MLV may, and will with respect to sales effected in an at-the-market offering, be deemed to be an underwriter within the meaning of the Securities Act, and the compensation of MLV may be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to MLV against certain civil liabilities, including liabilities under the Securities Act.

The offering pursuant to the sales agreement will terminate upon the earlier of (i) the issuance and sale of all shares of our common stock subject to the sales agreement, or (ii) the termination of the sales agreement as permitted therein. We may from time to time terminate the offering pursuant to the sales agreement in order to undertake other kinds of offerings, and accordingly may update this prospectus supplement to reflect any change in the amounts available for offerings pursuant to the sales agreement.

In compliance with guidelines of the Financial Industry Regulatory Authority, or FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate amount of the securities offered pursuant to this prospectus supplement and the accompanying prospectus.

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

Table of Contents

LEGAL MATTERS

The validity of our common stock offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Latham & Watkins LLP, Menlo Park, California. Certain attorneys and investment funds affiliated with the firm own 36,862 shares of our common stock and warrants to purchase 1,800 shares of our common stock. Reed Smith LLP, New York, New York, is counsel for MLV 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 by reference to the Annual Report on Form 10-K for the year ended December 31, 2011 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 only parts of a registration statement on Form S-3 we filed with the SEC under the Securities Act 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 Exchange Act, 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.

INCORPORATION 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 Exchange Act after the date of the prospectus supplement and until the termination of this offering:

our Annual Report on Form 10-K for the year ended December 31, 2011, filed with the SEC on March 9, 2012;

our Current Reports on Form 8-K (other than information furnished rather than filed) filed with the SEC on January 10, 2012 and March 12, 2012 ; and

the description of our common stock contained in our registration statement on Form 8-A (File No. 001-34939), filed with the SEC on October 29, 2010, including any amendment or reports filed for the purpose of updating such description.

You can request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

Complete Genomics, Inc.

2071 Stierlin Court

Mountain View, CA 94043

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

(650) 943-2800

Attn: Corporate Secretary

S-15

Table of Contents

PROSPECTUS

\$100,000,000

Complete Genomics, Inc.

Common Stock

Preferred Stock

Debt Securities

Warrants

We may, from time to time, sell up to \$100,000,000 in the aggregate of:

our secured or unsecured debt securities, in one or more series, which may be either senior or subordinated debt securities;
shares of our preferred stock, par value \$0.001 per share, in one or more series;
shares of our common stock, par value \$0.001 per share;
warrants to purchase our preferred stock or our common stock;
warrants to purchase our debt securities; or
any combination of the foregoing.

We will provide the specific terms of these offerings and securities in supplements to this prospectus. You should read carefully this prospectus, the information incorporated by reference in this prospectus, any prospectus supplement and any free writing prospectus before you invest. This prospectus may not be used to offer or sell any securities unless accompanied by a prospectus supplement.

Our common stock is traded on The NASDAQ Global Market under the symbol GNOM. On December 22, 2011, the closing price of our common stock was \$3.18.

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

We may offer and sell the securities directly, through agents we select from time to time or to or through underwriters or dealers we select, or through a combination of these methods. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus. If we use any agents, underwriters or dealers to sell the securities, we will name them and describe their compensation in a prospectus supplement. The price to the public of those securities and the net proceeds we expect to receive from that sale will also be set forth in a prospectus supplement. Pursuant to General Instruction I.B.6 of Form S-3, we will not sell our securities in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period if our public float, measured in accordance with such instruction, is below \$75.0 million.

INVESTING IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. RISKS ASSOCIATED WITH AN INVESTMENT IN OUR SECURITIES WILL BE DESCRIBED IN THE APPLICABLE PROSPECTUS SUPPLEMENT AND CERTAIN OF OUR FILINGS WITH THE SECURITIES AND EXCHANGE COMMISSION, AS DESCRIBED UNDER RISK FACTORS ON PAGE 4.

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is January 24, 2012.

Table of Contents**TABLE OF CONTENTS**

	Page
<u>ABOUT THIS PROSPECTUS</u>	1
<u>ABOUT COMPLETE GENOMICS</u>	1
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	2
<u>INCORPORATION BY REFERENCE</u>	2
<u>FORWARD-LOOKING STATEMENTS</u>	3
<u>RISK FACTORS</u>	4
<u>RATIO OF EARNINGS TO FIXED CHARGES</u>	4
<u>USE OF PROCEEDS</u>	4
<u>DESCRIPTION OF COMMON STOCK</u>	5
<u>DESCRIPTION OF PREFERRED STOCK</u>	8
<u>DESCRIPTION OF DEBT SECURITIES</u>	10
<u>DESCRIPTION OF WARRANTS</u>	17
<u>GLOBAL SECURITIES</u>	18
<u>PLAN OF DISTRIBUTION</u>	21
<u>CERTAIN PROVISIONS OF DELAWARE LAW AND OF THE COMPANY S CERTIFICATE OF INCORPORATION AND BYLAWS</u>	23
<u>LEGAL MATTERS</u>	24
<u>EXPERTS</u>	24

IMPORTANT NOTICE ABOUT THE INFORMATION PRESENTED IN THIS PROSPECTUS

You should rely only on the information we have provided or incorporated by reference in this prospectus or any prospectus supplement. We 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. This prospectus does not constitute an offer to sell, or a solicitation of an offer to purchase, the securities offered by this prospectus in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer or solicitation of an offer in such jurisdiction. You should assume that the information in this prospectus or any prospectus supplement is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of a security. Our business, financial condition and results of operations may have changed since that date.

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf registration process, we are registering an unspecified amount of each class of the securities described in this prospectus, and we may sell any combination of the securities described in this prospectus in one or more offerings. This prospectus provides you with a general description of the securities we may offer. Each time we use this prospectus to offer securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. To the extent that this prospectus is used by any securityholder to resell any securities, information with respect to the securityholder and the terms of the securities being offered will be contained in a prospectus supplement. Any prospectus supplement may also add, update or change information contained in this prospectus or in documents we have incorporated by reference into this prospectus. If there is any inconsistency between the information in this prospectus and any applicable prospectus supplement, you should rely on the information in the prospectus supplement. This prospectus, together with the applicable prospectus supplements, any applicable free writing prospectuses and the documents incorporated by reference into this prospectus, includes all material information relating to the securities we may offer. Please carefully read both this prospectus and the applicable prospectus supplement and any applicable free writing prospectus, together with the documents incorporated by reference into this prospectus described below under the heading **Where You Can Find More Information**, before making a decision to purchase any of our securities. This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

The prospectus supplement will describe: the specific terms of the securities offered, any initial public offering price, the price paid to us for the securities, the net proceeds to us, the manner of distribution and any underwriting compensation, and the other specific material terms related to the offering of the securities. The prospectus supplement may also contain information, where applicable, about United States federal income tax considerations relating to the securities.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of the documents referred to herein have been filed, or will be filed or incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under **Where You Can Find More Information**.

As used in this prospectus, **Complete Genomics**, **Company**, **we**, **our** or **us** refer to Complete Genomics, Inc. and its subsidiaries on a consolidated basis, unless otherwise indicated.

ABOUT COMPLETE GENOMICS

We are a life sciences company that has developed and commercialized a DNA sequencing platform for complete human genome sequencing and analysis, and our goal is to become the preferred solution for complete human genome sequencing and analysis. Our Complete Genomics Analysis Platform, or CGA Platform, combines our proprietary human genome sequencing technology with our advanced informatics and data management software and our innovative, end-to-end, outsourced service model to provide our customers with data that is immediately ready to be used for genome-based research. We believe that our solution provides academic and biopharmaceutical researchers with complete human genomic data and analysis at an unprecedented combination of quality, cost and scale without requiring them to invest in in-house sequencing instruments, high-performance computing resources and specialized personnel. By removing these constraints and broadly enabling researchers to conduct large-scale complete human genome studies, we believe that our solution has the potential to significantly advance medical research and expand understanding of the basis, treatment and prevention of complex diseases. We perform our sequencing service at our Mountain View, California headquarters facility, which began commercial operation in May 2010.

We were incorporated in the state of Delaware on June 14, 2005. The address of our principal executive offices is 2071 Stierlin Court, Mountain View, California 94043, and our telephone number is (650) 943-2800. Our website address is www.completegenomics.com. We do not incorporate the information on, or that can be accessed through, our website into this prospectus, and you should not consider it part of this prospectus.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is a part of a registration statement on Form S-3 that we filed with the SEC, but the registration statement includes additional information and also attaches exhibits that are referenced in this prospectus. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules thereto. Some items are omitted in accordance with the rules and regulations of the SEC. For further information with respect to us and the securities offered hereby, we refer you to the registration statement and the exhibits and schedules filed therewith. Statements contained in this prospectus as to the contents of any contract, agreement or any other document referred to are summaries of the material terms of the respective contract, agreement or other document. With respect to each of these contracts, agreements or other documents filed as an exhibit to the registration statement, reference is made to the exhibits for a more complete description of the matter involved. A copy of the registration statement, and the exhibits and schedules thereto, may be inspected without charge at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. Copies of these materials may be obtained by writing to the Public Reference Section of the SEC 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 facilities. The SEC maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the SEC's website is <http://www.sec.gov>. You may also inspect copies of these materials and other information about us at the offices of The NASDAQ Stock Market, 1735 K Street, N.W., Washington, D.C. 20006-1500.

We are subject to the information and periodic reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and, in accordance therewith, file periodic reports, proxy statements and other information with the SEC. Such periodic reports, proxy statements and other information are available for inspection and copying at the public reference room and website of the SEC referred to above. We maintain a website at www.completegenomics.com. You may access our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements and amendments to those reports filed or furnished pursuant to Sections 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The reference to our website address does not constitute incorporation by reference of the information contained on our website.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act between the date of this prospectus and the termination of the offering (other than current reports furnished under Item 2.02 or 7.01 of Form 8-K and exhibits filed on such form that are related to such items):

Our Annual Report on Form 10-K for the year ended December 31, 2010 filed with the SEC on March 30, 2011 (the Annual Report), excluding the audited financial statements which are incorporated by reference from the Registration Statement on Form S-1 listed herein;

The audited financial statements included in our Registration Statement on Form S-1 (No. 333-174081) filed with the SEC on May 10, 2011;

The information specifically incorporated by reference into our Annual Report from our definitive proxy statement on Schedule 14A, filed with SEC on May 2, 2011;

Our Quarterly Report on Form 10-Q for the quarter ended September 30, 2011 filed with the SEC on November 14, 2011;

Table of Contents

Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2011 filed with the SEC on August 15, 2011;

Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2011 filed with the SEC on May 10, 2011;

Our Current Reports on Form 8-K filed with the SEC on March 9, 2011, April 15, 2011, May 11, 2011, May 26, 2011, June 1, 2011, June 27, 2011, June 27, 2011 as amended on November 3, 2011, and November 28, 2011; and

The description of our common stock contained in our registration statement on Form 8-A, filed with the SEC on October 29, 2010, including any amendments or reports filed for the purpose of updating such description.

Any statement contained in a document incorporated by reference or deemed incorporated by reference into this prospectus will be deemed to be modified or superseded for the purposes of this prospectus to the extent that a later statement contained in this prospectus or in any other document incorporated by reference or deemed incorporated by reference into this prospectus modifies or supersedes the earlier statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits which are specifically incorporated by reference into such documents. Requests should be directed to the Investor Relations Department at Complete Genomics, Inc., at 2071 Stierlin Court, Mountain View, California 94043, telephone: (650) 943-2788.

FORWARD-LOOKING STATEMENTS

This prospectus and documents incorporated by reference into this prospectus and any prospectus supplement or free writing prospectus may include forward-looking statements. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends affecting the financial condition of our business. Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. You can identify these statements by forward-looking words such as may, will, expect, intend, anticipate, believe, estimate, could, should, continue or the negative of such terms or similar words or expressions. These forward-looking statements may also use different phrases. Forward-looking statements are based on information available at the time those statements are made and/or management's good faith belief as of that time with respect to future events, and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements.

This prospectus also contains estimates and other information concerning our current and target markets that are based on industry publications, surveys and forecasts, including those generated by Scientia Advisors. These estimates and information involve a number of assumptions and limitations, and you are cautioned not to give undue weight to these estimates and information. These industry publications, surveys and forecasts generally indicate that their information has been obtained from sources believed to be reliable. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in Risk Factors. These and other factors could cause actual results to differ materially from those expressed in these publications, surveys and forecasts.

Table of Contents

All forward-looking statements are based on information currently available to us. You should not put undue reliance on any forward-looking statements. We assume no obligation to update forward-looking statements to reflect actual results, changes in assumptions or changes in other factors affecting forward-looking information, except to the extent required by applicable laws. If we update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

RISK FACTORS

You should carefully consider the specific risks set forth under the caption **Risk Factors** in the applicable prospectus supplement and under the caption **Risk Factors** in any of our filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, incorporated by reference herein, before making an investment decision. For more information, see **Where You Can Find More Information**.

RATIO OF EARNINGS TO FIXED CHARGES

Our earnings are inadequate to cover fixed charges. The following table sets forth the dollar amount of the coverage deficiency for each of the years ended December 31, 2010, 2009, 2008, 2007 and 2006, and the nine month period ended September 30, 2011. We have not included a ratio of earnings to combined fixed charges and preferred stock dividends because we do not have any preferred stock outstanding. We have derived the deficiency of earnings to cover fixed charges from our historical financial statements. The following should be read in conjunction with our consolidated financial statements, including the notes thereto, and the other financial information included or incorporated by reference herein. See Exhibit 12.1 hereto for additional detail regarding the computation of the deficiency of earnings to cover fixed charges.

(in millions)	Year Ended December 31,					Nine Months Ended
	2006	2007	2008	2009	2010	Sept. 30, 2011
Deficiency of earnings available to cover fixed charges (1)	\$ (4,565)	\$ (12,253)	\$ (28,394)	\$ (35,949)	\$ (57,687)	\$ (50,026)

- (1) For this purpose, earnings consist of net loss plus fixed charges; and fixed charges consists of interest expense, other costs related to indebtedness and the interest component of rental expense.

USE OF PROCEEDS

Unless otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities under this prospectus for general corporate purposes, which may include funding research and development, increasing our working capital, reducing indebtedness, acquisitions or investments in businesses, products or technologies that are complementary to our own, and capital expenditures. We will set forth in the prospectus supplement our intended use for the net proceeds received from the sale of any securities. Pending the use of the net proceeds, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing securities.

Table of Contents

DESCRIPTION OF COMMON STOCK

The following summary of the terms of our common stock does not purport to be complete and is subject to and qualified in its entirety by reference to our Certificate of Incorporation and Bylaws, copies of which are on file with the SEC as exhibits to documents previously filed by us. See Where You Can Find More Information.

We have authority to issue 300,000,000 shares of common stock, \$0.001 par value per share. As of November 1, 2011, we had 33,182,920 shares of common stock outstanding.

Each share of common stock entitles its holder to one vote for each share on all matters submitted to a vote of the stockholders. The holders of common stock are not entitled to cumulative voting rights with respect to the election of directors, and as a consequence, holders of a majority of the voting shares are able to elect all of the directors. Subject to preferences that may apply to any outstanding preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds. The terms of our credit facility currently prohibit us from paying cash dividends on our common stock. In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock. The common stock has no preemptive rights, conversion rights or subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate in the future. All outstanding shares of common stock are fully paid and non-assessable, and all shares of common stock to be issued under this prospectus will be fully paid and non-assessable.

Anti-Takeover Effects of Provisions of Delaware Law and Our Charter Documents

The following paragraphs summarize certain provisions of the Delaware General Corporation Law (the DGCL) and our Certificate of Incorporation and Bylaws. The summary does not purport to be complete and is subject to and qualified in its entirety by reference to the DGCL and to our Certificate of Incorporation and Bylaws, copies of which are on file with the SEC and are exhibits to documents previously filed by us. See Where You Can Find More Information.

Our amended and restated certificate of incorporation (as amended, Certificate of Incorporation) and our amended and restated bylaws (Bylaws) contain provisions that, together with the ownership position of our officers, directors and their affiliates, could discourage potential takeover attempts and make it more difficult for stockholders to change management, which could adversely affect the market price of our common stock.

Director Liability

Our Certificate of Incorporation limits the personal liability of our directors to our company and our stockholders to the maximum extent permitted by applicable law. The inclusion of this provision in our Certificate of Incorporation may reduce the likelihood of derivative litigation against our directors and may discourage or deter stockholders or management from bringing a lawsuit against our directors for breach of their duty of care.

Stockholder Action and Meetings of Stockholders

In addition, our Certificate of Incorporation and Bylaws provide that stockholders wishing to propose business to be brought before a meeting of stockholders will be required to comply with various advance notice requirements. In addition, a special meeting of the stockholders may only be called by the board of directors, chairperson of the board of directors, chief executive officer or president (in the absence of a chief executive officer). Finally, our Certificate of Incorporation and Bylaws will not permit stockholders to take any action without a meeting.

Table of Contents

Classified Board of Directors

Our Certificate of Incorporation provides for the board of directors to be divided into three classes of directors, serving staggered three-year terms. As a result, approximately one-third of the board of directors will be elected each year. The classified board provision will help to assure the continuity and stability of the board of directors and the business strategies and policies of Complete Genomics as determined by the board of directors. The classified board provision could have the effect of discouraging a third party from making a tender offer or attempting to obtain control of us. In addition, the classified board provision could delay stockholders who do not agree with the policies of the board of directors from removing a majority of the board of directors for two years.

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the DGCL. This statute regulating corporate takeovers prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for three years following the date that such stockholder became an interested stockholder, unless:

prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (a) shares owned by persons who are directors and also officers, and (b) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

on or subsequent to the date of the transaction, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3 % of the outstanding voting stock which is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

any merger or consolidation involving the corporation and the interested stockholder;

any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation or its majority-owned subsidiary involving the interested stockholder;

subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or

the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines interested stockholder as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by such entity or person.

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. Section 203 may also discourage takeover attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Table of Contents

Transfer Agent And Registrar

The transfer agent and registrar for our common stock is Wells Fargo Bank Minnesota, N.A.

Listing on The NASDAQ Global Market

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

Table of Contents

DESCRIPTION OF PREFERRED STOCK

We have authority to issue 5,000,000 shares of preferred stock, \$0.001 par value per share. As of November 1, 2011, we had no shares of preferred stock outstanding.

General

Under our Certificate of Incorporation, our board of directors is authorized generally without further action by stockholders, to issue shares of preferred stock from time to time, in one or more classes or series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. Prior to the issuance of shares of each series, the board of directors is required by the DGCL and our Certificate of Incorporation to adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation fixes for each class or series the designations, powers, preferences, rights, qualifications, limitations and restrictions, including, but not limited to, the following:

the number of shares constituting each class or series;

voting rights;

rights and terms of redemption (including sinking fund provisions);

dividend rights and rates;

dissolution;

terms concerning the distribution of assets;

conversion or exchange terms;

redemption prices; and

liquidation preferences.

All shares of preferred stock offered hereby will, when issued, be fully paid and nonassessable and will not have any preemptive or similar rights. Our board of directors could authorize the issuance of shares of preferred stock with terms and conditions which could have the effect of discouraging a takeover or other transaction that might involve a premium price for holders of the shares or which holders might believe to be in their best interests.

We will set forth in a prospectus supplement relating to the class or series of preferred stock being offered the following terms:

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

the title and stated value of the preferred stock;

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

the dividend rate(s), period(s) and/or payment date(s) or method(s) of calculation applicable to the preferred stock;

whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends on the preferred stock will accumulate;

the procedures for any auction and remarketing, if any, for the preferred stock;

the provisions for a sinking fund, if any, for the preferred stock;

the provision for redemption, if applicable, of the preferred stock;

any listing of the preferred stock on any securities exchange;

Table of Contents

the terms and conditions, if applicable, upon which the preferred stock will be convertible into common stock, including the conversion price (or manner of calculation) and conversion period;

voting rights, if any, of the preferred stock;

whether interests in the preferred stock will be represented by depositary shares;

a discussion of any material and/or special United States Federal income tax considerations applicable to the preferred stock;

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

any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the class or series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs; and

any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

Rank

Unless we specify otherwise in the applicable prospectus supplement, the preferred stock will rank, with respect to dividends and upon our liquidation, dissolution or winding up:

senior to all classes or series of our common stock and to all of our equity securities ranking junior to the preferred stock;

on a parity with all of our equity securities the terms of which specifically provide that the equity securities rank on a parity with the preferred stock; and

junior to all of our equity securities the terms of which specifically provide that the equity securities rank senior to the preferred stock.

The term "equity securities" does not include convertible debt securities.

Transfer Agent and Registrar

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

Table of Contents

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplement, summarizes certain general terms and provisions of the debt securities that we may offer under this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement to what extent the general terms and provisions described in this prospectus apply to a particular series of debt securities.

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series.

The debt securities will be issued under an indenture between us and Wilmington Trust, National Association, as trustee. We have summarized select portions of the indenture below. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement and you should read the indenture for provisions that may be important to you. In the summary below, we have included references to the section numbers of the indenture so that you can easily locate these provisions. Capitalized terms used in the summary and not defined herein have the meanings specified in the indenture.

As used in this section only, Complete Genomics, we, our or us refer to Complete Genomics, Inc. excluding our subsidiaries, unless expressly stated or the context otherwise requires.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in a resolution of our board of directors, in an officer's certificate or by a supplemental indenture. (Section 2.2) The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series (including any pricing supplement or term sheet).

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. (Section 2.1) We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered, the aggregate principal amount and the following terms of the debt securities, if applicable:

the title and ranking of the debt securities (including the terms of any subordination provisions);

the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities;

any limit on the aggregate principal amount of the debt securities;

the date or dates on which the principal of the securities of the series is payable;

the rate or rates (which may be fixed or variable) per annum or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the debt securities will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable and any regular record date for the interest payable on any interest payment date;

the place or places where principal of, and interest, if any, on the debt securities will be payable (and the method of such payment), where the securities of such series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;

the period or periods within which, the price or prices at which and the terms and conditions upon which we may redeem the debt securities;

Table of Contents

any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and in the terms and conditions upon which securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

the dates on which and the price or prices at which we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;

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

whether the debt securities will be issued in the form of certificated debt securities or global debt securities;

the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;

the currency of denomination of the debt securities, which may be United States Dollars or any foreign currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;

the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities will be made;

if payments of principal of, premium or interest on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;

the manner in which the amounts of payment of principal of, premium, if any, or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies other than that in which the debt securities are denominated or designated to be payable or by reference to a commodity, commodity index, stock exchange index or financial index;

any provisions relating to any security provided for the debt securities;

any addition to, deletion of or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;

any addition to, deletion of or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities;

the provisions, if any, relating to conversion or exchange of any securities of such series, including if applicable, the conversion or exchange price and period, provisions as to whether conversion or exchange will be mandatory, the events requiring an adjustment of the conversion or exchange price and provisions affecting conversion or exchange; and

any other terms of the debt securities, which may supplement, modify or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the securities.(Section 2.2)

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Table of Contents

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, or the Depository, or a nominee of the Depository (we will refer to any debt security represented by a global debt security as a book-entry debt security), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a certificated debt security) as set forth in the applicable prospectus supplement. Except as set forth under the heading Global Debt Securities and Book-Entry System below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities. You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. (Section 2.4) No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange. (Section 2.7)

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

Global Debt Securities and Book-Entry System. Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the Depository, and registered in the name of the Depository or a nominee of the Depository. Please see Global Securities.

Covenants

We will set forth in the applicable prospectus supplement any restrictive covenants applicable to any issue of debt securities. (Article IV)

No Protection In the Event of a Change of Control

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

Consolidation, Merger and Sale of Assets

We may not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our properties and assets to, any person (a successor person) unless:

we are the surviving corporation or the successor person (if other than us) is a corporation organized and validly existing under the laws of any U.S. domestic jurisdiction and expressly assumes our obligations on the debt securities and under the indenture; and

immediately after giving effect to the transaction, no Default or Event of Default, shall have occurred and be continuing. Notwithstanding the above, any of our subsidiaries may consolidate with, merge into or transfer all or part of its properties to us. (Section 5.1)

Table of Contents

Events of Default

Event of Default means with respect to any series of debt securities, any of the following:

default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of such default for a period of 30 days (unless the entire amount of the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the 30-day period);

default in the payment of principal of any security of that series at its maturity;

default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after we receive written notice from the trustee or we and the trustee receive written notice from the holders of not less than 25% in principal amount of the outstanding debt securities of that series as provided in the indenture;

certain voluntary or involuntary events of bankruptcy, insolvency or reorganization of us; and

any other Event of Default provided with respect to debt securities of that series that is described in the applicable prospectus supplement. (Section 6.1)

No Event of Default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an Event of Default with respect to any other series of debt securities. (Section 6.1) The occurrence of certain Events of Default or an acceleration under the indenture may constitute an event of default under certain indebtedness of ours or our subsidiaries outstanding from time to time.

If an Event of Default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than 25% in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of bankruptcy, insolvency or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. (Section 6.2) We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an Event of Default.

The indenture provides that the trustee will be under no obligation to exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability or expense which might be incurred by it in exercising such right of power. (Section 7.1(e)) Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series. (Section 6.12)

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

that holder has previously given to the trustee written notice of a continuing Event of Default with respect to debt securities of that series; and

Table of Contents

the holders of not less than 25% in principal amount of the outstanding debt securities of that series have made written request, and offered reasonable indemnity or security, to the trustee to institute the proceeding as trustee, and the trustee has not received from the holders of not less than a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days. (Section 6.7)

Notwithstanding any other provision in the indenture, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, premium and any interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment. (Section 6.8)

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. (Section 4.3) If a Default or Event of Default occurs and is continuing with respect to the securities of any series and if it is known to a responsible officer of the trustee, the trustee shall mail to each holder of the securities of that series notice of a Default or Event of Default within 90 days after it occurs. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any Default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities. (Section 7.5)

Modification and Waiver

We and the trustee may modify and amend the indenture or the debt securities of any series without the consent of any holder of any debt security:

to cure any ambiguity, defect or inconsistency;

to comply with covenants in the indenture described above under the heading Consolidation, Merger and Sale of Assets ;

to provide for uncertificated securities in addition to or in place of certificated securities;

to make any change that does not adversely affect the rights of any holder of debt securities;

to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;

to effect the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture to provide for or facilitate administration by more than one trustee; or

to comply with requirements of the Commission in order to effect or maintain the qualification of the indenture under the Trust Indenture Act. (Section 9.1)

We may also modify and amend the indenture with the consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the consent of the holders of each affected debt security then outstanding if that amendment will:

reduce the amount of debt securities whose holders must consent to an amendment, supplement or waiver;

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;

reduce the principal of or premium on or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;

Table of Contents

reduce the principal amount of discount securities payable upon acceleration of maturity;

waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);

make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;

make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or

waive a redemption payment with respect to any debt security. (Section 9.3)

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. (Section 9.2) The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration. (Section 6.13)

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

Legal Defeasance. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of any series (subject to certain exceptions). We will be so discharged upon the deposit with the trustee, in trust, of money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred. (Section 8.3)

Defeasance of Certain Covenants. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions:

we may omit to comply with the covenant described under the heading **Consolidation, Merger and Sale of Assets** and certain other covenants set forth in the indenture, as well as any additional covenants which may be set forth in the applicable prospectus supplement; and

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

any omission to comply with those covenants will not constitute a Default or an Event of Default with respect to the debt securities of that series (covenant defeasance).

Table of Contents

The conditions include:

depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and

delivering to the trustee an opinion of counsel to the effect that the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred. (Section 8.4)

Covenant Defeasance and Events of Default. In the event we exercise our option to effect covenant defeasance with respect to any series of debt securities and the debt securities of that series are declared due and payable because of the occurrence of any Event of Default, the amount of money and/or U.S. government obligations or foreign government obligations on deposit with the trustee will be sufficient to pay amounts due on the debt securities of that series at the time of their stated maturity but may not be sufficient to pay amounts due on the debt securities of that series at the time of the acceleration resulting from the Event of Default. However, we shall remain liable for those payments. (Section 8.4)

Governing Law

The indenture and the debt securities, including any claim or controversy arising out of or relating to the indenture or the securities, will be governed by the laws of the State of New York without regard to conflict of law principles that would result in the application of any law other than the laws of the State of New York. (Section 10.10)

Table of Contents

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common stock, preferred stock or debt securities. We may issue warrants independently or together with any other securities offered by any prospectus supplement and may be attached to or separate from the other offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into by us with a warrant agent. The warrant agent will act solely as our agent in connection with the series of warrants and will not assume any obligation or relationship of agency or trust for or with any holders or beneficial owners of the warrants. Further terms of the warrants and the applicable warrant agreements will be set forth in the applicable prospectus supplement.

The applicable prospectus supplement will describe the terms of the warrants in respect of which this prospectus is being delivered, including, where applicable, the following:

the title of the warrants;

the aggregate number of the warrants;

the price or prices at which the warrants will be issued;

the designation, terms and number of shares of debt securities, preferred stock or common stock purchasable upon exercise of the warrants;

the designation and terms of the offered securities, if any, with which the warrants are issued and the number of the warrants issued with each offered security;

the date, if any, on and after which the warrants and the related debt securities, preferred stock or common stock will be separately transferable;

the price at which each share of debt securities, preferred stock or common stock purchasable upon exercise of the warrants may be purchased;

the date on which the right to exercise the warrants shall commence and the date on which that right shall expire;

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

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

a discussion of certain federal income tax considerations; and

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

Table of Contents

GLOBAL SECURITIES

Book-Entry, Delivery and Form

Unless we indicate differently in a prospectus supplement, the securities initially will be issued in book-entry form and represented by one or more global notes or global securities, or collectively, global securities. The global securities will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, as depository, or DTC, and registered in the name of Cede & Co., the nominee of DTC. Unless and until it is exchanged for individual certificates evidencing securities under the limited circumstances described below, a global security may not be transferred except as a whole by the depository to its nominee or by the nominee to the depository, or by the depository or its nominee to a successor depository or to a nominee of the successor depository.

DTC has advised us that it is:

- a limited-purpose trust company organized under the New York Banking Law;
- a banking organization within the meaning of the New York Banking Law;
- a member of the Federal Reserve System;
- a clearing corporation within the meaning of the New York Uniform Commercial Code; and
- a clearing agency registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC holds securities that its participants deposit with DTC. DTC also facilitates the settlement among its participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct participants in DTC include securities brokers and dealers, including underwriters, banks, trust companies, clearing corporations and other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, which we sometimes refer to as indirect participants, that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC.

Purchases of securities under the DTC system must be made by or through direct participants, which will receive a credit for the securities on DTC's records. The ownership interest of the actual purchaser of a security, which we sometimes refer to as a beneficial owner, is in turn recorded on the direct and indirect participants' records. Beneficial owners of securities will not receive written confirmation from DTC of their purchases. However, beneficial owners are expected to receive written confirmations providing details of their transactions, as well as periodic statements of their holdings, from the direct or indirect participants through which they purchased securities. Transfers of ownership interests in global securities are to be accomplished by entries made on the books of participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interests in the global securities, except under the limited circumstances described below.

To facilitate subsequent transfers, all global securities deposited by direct participants with DTC will be registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of securities with DTC and their registration in the name of Cede & Co. or such other nominee will not change the beneficial ownership of the securities. DTC has no knowledge of the actual beneficial owners of the securities. DTC's records reflect only the identity of the direct participants to whose accounts the securities are credited, which may or may not be the beneficial owners. The participants are responsible for keeping account of their holdings on behalf of their customers.

So long as the securities are in book-entry form, you will receive payments and may transfer securities only through the facilities of the depository and its direct and indirect participants. We will maintain an office or agency in the location specified in the prospectus supplement for

Edgar Filing: COMPLETE GENOMICS INC - Form 424B5

the applicable securities, where notices and demands in respect of the securities and the indenture may be delivered to us and where certificated securities may be surrendered for payment, registration of transfer or exchange.

Table of Contents

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any legal requirements in effect from time to time.

Redemption notices will be sent to DTC. If less than all of the securities of a particular series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each direct participant in the securities of such series to be redeemed.

Neither DTC nor Cede & Co. (or such other DTC nominee) will consent or vote with respect to the securities. Under its usual procedures, DTC will mail an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns the consenting or voting rights of Cede & Co. to those direct participants to whose accounts the securities of such series are credited on the record date, identified in a listing attached to the omnibus proxy.

So long as securities are in book-entry form, we will make payments on those securities to the depository or its nominee, as the registered owner of such securities, by wire transfer of immediately available funds. If securities are issued in definitive certificated form under the limited circumstances described below, we will have the option of making payments by check mailed to the addresses of the persons entitled to payment or by wire transfer to bank accounts in the United States designated in writing to the applicable trustee or other designated party at least 15 days before the applicable payment date by the persons entitled to payment.

Redemption proceeds, distributions and dividend payments on the securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit direct participants' accounts upon DTC's receipt of funds and corresponding detail information from us on the payment date in accordance with their respective holdings shown on DTC records. Payments by participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the account of customers in bearer form or registered in street name. Those payments will be the responsibility of participants and not of DTC or us, subject to any statutory or regulatory requirements in effect from time to time. Payment of redemption proceeds, distributions and dividend payments to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC, is our responsibility, disbursement of payments to direct participants is the responsibility of DTC, and disbursement of payments to the beneficial owners is the responsibility of direct and indirect participants.

Except under the limited circumstances described below, purchasers of securities will not be entitled to have securities registered in their names and will not receive physical delivery of securities. Accordingly, each beneficial owner must rely on the procedures of DTC and its participants to exercise any rights under the securities and the indenture.

The laws of some jurisdictions may require that some purchasers of securities take physical delivery of securities in definitive form. Those laws may impair the ability to transfer or pledge beneficial interests in securities.

DTC may discontinue providing its services as securities depository with respect to the securities at any time by giving reasonable notice to us. Under such circumstances, in the event that a successor depository is not obtained, securities certificates are required to be printed and delivered.

As noted above, beneficial owners of a particular series of securities generally will not receive certificates representing their ownership interests in those securities. However, if:

DTC notifies us that it is unwilling or unable to continue as a depository for the global security or securities representing such series of securities or if DTC ceases to be a clearing agency registered under the Exchange Act at a time when it is required to be registered and a successor depository is not appointed within 90 days of the notification to us or of our becoming aware of DTC's ceasing to be so registered, as the case may be;

we determine, in our sole discretion, not to have such securities represented by one or more global securities; or

an Event of Default has occurred and is continuing with respect to such series of securities,

Table of Contents

we will prepare and deliver certificates for such securities in exchange for beneficial interests in the global securities. Any beneficial interest in a global security that is exchangeable under the circumstances described in the preceding sentence will be exchangeable for securities in definitive certificated form registered in the names that the depositary directs. It is expected that these directions will be based upon directions received by the depositary from its participants with respect to ownership of beneficial interests in the global securities.

We have obtained the information in this section and elsewhere in this prospectus concerning DTC and DTC's book-entry system from sources that are believed to be reliable, but we take no responsibility for the accuracy of this information.

Table of Contents

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

at a fixed price or prices, which may be changed;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

Each time that we sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase securities as a principal, and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

The securities may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

Table of Contents

If indicated in the applicable prospectus supplement, underwriters or other persons acting as agents may be authorized to solicit offers by institutions or other suitable purchasers to purchase the securities at the public offering price set forth in the prospectus supplement, pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in the prospectus supplement. These purchasers may include, among others, commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions. Delayed delivery contracts will be subject to the condition that the purchase of the securities covered by the delayed delivery contracts will not at the time of delivery be prohibited under the laws of any jurisdiction in the United States to which the purchaser is subject. The underwriters and agents will not have any responsibility with respect to the validity or performance of these contracts.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of securities, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of securities. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be identified in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

Table of Contents

**CERTAIN PROVISIONS OF DELAWARE LAW AND OF
THE COMPANY S CERTIFICATE OF INCORPORATION AND BYLAWS**

The following paragraphs summarize certain provisions of the DGCL and the Company s Certificate of Incorporation and Bylaws. The summary does not purport to be complete and is subject to and qualified in its entirety by reference to the DGCL and to the Company s Certificate of Incorporation and Bylaws, copies of which are on file with the SEC as exhibits to documents previously filed by us. See Where You Can Find More Information.

Our Certificate of Incorporation and Bylaws contain provisions that, together with the ownership position of the officers, directors and their affiliates, could discourage potential takeover attempts and make it more difficult for stockholders to change management, which could adversely affect the market place of our common stock.

Our Certificate of Incorporation limits the personal liability of our directors to Complete Genomics and our stockholders to the fullest extent permitted by the DGCL. The inclusion of this provision in our Certificate of Incorporation may reduce the likelihood of derivative litigation against directors and may discourage or deter stockholders or management from bringing a lawsuit against directors for breach of their duty of care.

Our Bylaws provide that special meetings of stockholders can be called only by the board of directors, chairperson of the board of directors, chief executive officer or president (in the absence of a chief executive officer). Stockholders are not permitted to call a special meeting and cannot require the board of directors to call a special meeting. Any vacancy on the board of directors resulting from death, resignation, removal or otherwise or newly created directorships may be filled only by vote of the majority of directors then in office, or by a sole remaining director. Our Bylaws also provide for a classified board. See Description of Common Stock.

We are subject to the business combination statute of the DGCL, an anti-takeover law enacted in 1988. In general, Section 203 of the DGCL 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 a person became an interested stockholder, unless:

prior to such date the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

on or subsequent to such date the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders by the affirmative vote of at least 66 2/3 % of the outstanding voting stock which is not owned by the interested stockholder.

A business combination includes mergers, stock or asset sales and other transactions resulting in a financial benefit to the interested stockholders. An interested stockholder is a person who, together with affiliates and associates, owns (or within three years, did own) 15% or more of the corporation s voting stock. Although Section 203 permits us to elect not to be governed by its provisions, we have not made this election. As a result of the application of Section 203, potential acquirers of Complete Genomics may be discouraged from attempting to effect an acquisition transaction with us, thereby possibly depriving holders of our securities of certain opportunities to sell or otherwise dispose of such securities at above-market prices pursuant to such transactions.

Table of Contents

LEGAL MATTERS

Certain legal matters with respect to the common stock offered hereby have been passed upon for us by Latham & Watkins LLP, Menlo Park, California. Certain legal matters will be passed upon for any agents or underwriters by counsel for such agents or underwriters identified in the applicable prospectus supplement.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Registration Statement on Form S-1 (No. 333-174081) of Complete Genomics, Inc. have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1 to the financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

Table of Contents

COMPLETE GENOMICS, INC.

\$30,000,000

Common Stock

Prospectus Supplement

The date of this prospectus supplement is March 9, 2012.