FLUIDIGM CORP
Form S-1/A
May 30, 2008

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As filed with the Securities and Exchange Commission on May 30, 2008
Registration No. 333-150227

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

AMENDMENT NO. 2 TO
Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

FLUIDIGM CORPORATION
(Exact name of Registrant as specified in its charter)

Delaware	**3826**	**77-0513190**
(State or other jurisdiction of incorporation or organization)	*(Primary Standard Industrial Classification Code Number)*	*(I.R.S. Employer Identification Number)*

7000 Shoreline Court, Suite 100
South San Francisco, CA 94080
(650) 266-6000
(Address, including zip code, and telephone number, including area code, of Registrant s principal executive offices)

Gajus V. Worthington
President and Chief Executive Officer
7000 Shoreline Court, Suite 100
South San Francisco, CA 94080
(650) 266-6000
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, as amended, check the following box. o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o — —

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o — —

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o — —

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Ruler 12b-2 of the Exchange Act. (Check one):

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

(Do not check if a smaller reporting company)

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of

1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is declared effective. This preliminary prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PROSPECTUS (Subject to Completion)
Issued May 30, 2008

Shares

COMMON STOCK

Fluidigm Corporation is offering shares of its common stock. This is our initial public offering, and no public market currently exists for our shares. We anticipate that the initial public offering price will be between $ and $ per share.

We have applied to list our common stock on the NASDAQ Global Market under the symbol FLDM.

Investing in our common stock involves risks. See Risk Factors beginning on page 7.

PRICE $ A SHARE

	Price to Public	***Underwriting Discounts and Commissions***	***Proceeds to Fluidigm Corporation***

Per Share	$	$	$
Total	$	$	$

We have granted the underwriters the right to purchase up to an additional shares of common stock to cover over-allotments.

The Securities and Exchange Commission and state securities regulators have not approved or disapproved these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Morgan Stanley & Co. Incorporated expects to deliver the shares to purchasers on , 2008.

MORGAN STANLEY

UBS INVESTMENT BANK

LEERINK SWANN

, 2008

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You should rely only on the information contained in this prospectus and in any free writing prospectus prepared by or on behalf of us. We have not, and the underwriters have not, authorized anyone to provide you with information different from, or in addition to, that contained in this prospectus or any related free writing prospectus. This prospectus is an offer to sell only the shares offered hereby but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

Through and including, , 2008 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer s obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus.

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PROSPECTUS SUMMARY

This summary highlights information contained in greater detail elsewhere in this prospectus. This summary may not contain all the information that you should consider before investing in our common stock. You should read the entire prospectus carefully, including Risk Factors beginning on page 7 and our consolidated financial statements and related notes included elsewhere in this prospectus, before making an investment decision. Unless otherwise indicated, the terms Fluidigm, we, us and our refer to Fluidigm Corporation.

FLUIDIGM CORPORATION

Overview

We develop, manufacture and market proprietary Integrated Fluidic Circuit systems that significantly improve productivity in the life science industry. Our Integrated Fluidic Circuits, or IFCs, address critical industry needs by providing very large-scale integration of essential laboratory functions on a single microfabricated device. IFCs can measure, combine, diffuse, fold, mix, separate or pump nanoliter volumes of fluids with precise control and reproducibility. Based on their similarities to the integrated circuit that revolutionized the microelectronics industry, we often refer to our IFCs as integrated circuits for biology. These devices enable our customers to perform thousands of sophisticated biochemical reactions and measurements in parallel on samples smaller than the content of a single cell, while reducing the consumption of expensive laboratory chemicals. Particularly for large-scale experimentation, our IFC systems increase throughput, decrease costs and enhance sensitivity compared to conventional laboratory systems.

We have commercialized IFC systems, consisting of instrumentation, software and single-use IFCs, for a wide range of life science applications. Researchers and clinicians have successfully employed our products in achieving breakthroughs across diverse scientific disciplines such as genetic variation, cellular function and structural biology. These advances include using our systems to help detect life-threatening mutations in patients cancer cells, discover indicators of susceptibility to cancer, manage some of the world s most valuable fisheries, analyze the genetic composition of individual stem cells, identify fetal chromosomal abnormalities from maternal blood samples, analyze the aggressiveness of the avian flu virus and assess the quality of agricultural seed products. We believe that the flexible architecture of our IFC technology will lead to the development of IFC systems for a wide variety of additional markets and applications, including molecular diagnostics.

We believe our success and continued growth prospects are attributable to the following:

Disruptive Technology. We believe we have achieved an unprecedented level of miniaturization in microfluidics, allowing us to integrate the components required to automate a broad range of life science applications in an area less than half the size of a credit card. Our IFCs deliver orders of magnitude improvements in cost and labor efficiencies, while being easily incorporated into existing laboratory workflows and allowing the use of broadly accepted chemistries.

Proven Customer Adoption. We have sold our IFCs to over 100 customers. These customers include many leading biotechnology and pharmaceutical companies, academic institutions and life science laboratories worldwide.

Broad Application in the Life Science Market. We have developed and commercialized IFCs for several significant life science research applications and believe that the inherent flexibility of our technology will

enable the development of IFCs for a wide variety of additional markets and applications.

Strong Research and Development Capabilities and Intellectual Property Position. We have and will continue to invest substantially in research and development to increase the density, throughput and functionality of our IFCs. We have developed an extensive portfolio of intellectual property, including more than 80 issued U.S. patents and 240 patent applications pending worldwide either owned by or licensed to us.

Efficient Manufacturing and Process Development. Our sophisticated manufacturing process, which combines standard semiconductor methods with proprietary techniques, enables us to produce large quantities of IFCs to stringent quality standards. We have established our manufacturing facility in

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Singapore because of the availability of a skilled workforce, an extensive supplier and partner network, lower operating costs and significant government support.

Our Target Markets

The life science industry is currently facing challenges similar to those faced by the information technology industry when computational power was constrained by the inherent limitations of the vacuum tube. Life science research efforts, ranging from large-scale initiatives, such as the Human Genome Project, to more traditional academic and commercial research projects, are continuing to reveal the complex biological and chemical processes that are fundamental to living organisms. Developing and applying this knowledge increasingly requires performing experimentation on a scale and with a precision that can be achieved only through automation. However, the most common forms of life science automation rely on cumbersome robotic systems that are slow, expensive and labor intensive and, we believe, fundamentally constrain life science research. In much the same way that integrated circuits overcame the limitations of early computers by placing an increasing number of transistors on a single silicon chip, our IFCs are designed to overcome many of the limitations of conventional laboratory systems by integrating an increasing number of fluidic components on a single microfabricated IFC.

Currently, researchers and clinicians use our IFCs to perform large-scale experimentation in the fields of genomics and proteomics. Genomics is the in-depth study of the genetic makeup of microorganisms, plants, animals and people, including analyzing variations in genes and gene activity. Proteomics is the large-scale study of the structure and function of proteins. Our IFC systems support the following types of genomic and proteomic studies:

Genotyping: determining the specific genetic traits of an individual or individuals;

Gene expression analysis: measuring the activity of genes.

Protein crystallization: determining the three-dimensional structure of proteins.

Digital PCR: quantifying scarce genetic sequences in a biological sample.

According to Strategic Directions International, in 2005 the principal segments of the genomic analysis market, gene expression and genotyping, accounted for $4.9 billion worldwide in expenditures and are expected to grow annually by 8% through 2010. We believe that our products may further be developed for use in molecular diagnostics. Molecular diagnostics is a rapidly growing market that seeks to apply information learned from genomic and proteomic analysis to clinical practice in diagnosing, monitoring and treating disease.

The Fluidigm Solution

Our IFC systems are designed to overcome many of the limitations of conventional laboratory systems by enabling researchers and clinicians to rapidly perform a large number of experiments at one time and in nanoliter volumes, significantly increasing throughput, reducing reagent costs, conserving patient samples and reducing workflow complexity.

We commercially introduced our Topaz IFC system in the first quarter of 2003 and our Biomark IFC system in the fourth quarter of 2006. Our first IFC, the 1.96 Dynamic Array for our Topaz system, was introduced in the first quarter of 2003 and allowed researchers to test a single sample against 96 different reagents. In May 2008, we introduced the 96.96 Dynamic Array IFC for our Biomark system. This IFC is based on a matrix architecture that allows a researcher to test each of 96 different samples against each of 96 different reagents in parallel, and thus perform 9,216 individual experiments simultaneously.

The advantages of our IFC systems over conventional laboratory systems include:

Reduced Complexity. Loading our IFC requires orders of magnitude fewer liquid handling steps than conventional systems for the same experiment.

Improved Throughput. Our most advanced IFCs can conduct up to 24 times more experiments than a conventional system can perform in a single run.

Nanoliter Precision. Our IFC systems allow researchers to dispense samples and reagents in nanoliter, or billionths of a liter, volumes, which supports high sensitivity techniques.

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Reduced Reagent and Sample Requirements. Our systems operate on volumes of reagents and samples that are typically less than 1% of the volumes required by conventional systems.

Decreased Capital Cost. For high volume users, the cost of purchasing one BioMark system is much lower than the cost of purchasing the number of conventional systems required to provide the same throughput.

Ease of Adoption. Our IFCs systems support widely-used chemistries and are compatible with standard laboratory equipment, allowing researchers to easily incorporate our products into their laboratory workflow and processes.

We believe that our IFC systems also offer significant advantages over other high-throughput methods for large scale experimentation. These alternative approaches have one or more limitations, such as lack of flexibility, poor data quality, complex and slow workflows or high running costs. Our IFC systems are not designed for smaller scale research initiatives where complexity and workflow issues may be less pressing and conventional systems may be more economical. As life science research continues to evolve and is commercialized, we believe that there will be increasing demand for life science automation solutions that enable experimentation on the scale supported by our IFC systems.

Risks Affecting Us

Our business is subject to numerous risks, as more fully described in the section entitled Risk Factors immediately following this prospectus summary, including the following:

We have incurred significant losses since our inception, had an accumulated deficit of $140.4 million as of March 29, 2008 and expect to incur losses for the foreseeable future.

If our products fail to achieve and sustain market acceptance, our revenue will be adversely affected.

Our sales cycle for the BioMark and Topaz systems is lengthy and unpredictable, which makes it difficult for us to forecast revenue and could cause significant quarterly fluctuations in revenue and other operating results.

We receive a substantial portion of our revenues from a limited number of customers and other entities, and the loss of, or a significant reduction in, orders or grants from one or more of our major customers or grantors would adversely affect our operations and financial condition.

The life science industry is highly competitive and subject to rapid technological change, and we may not be able to successfully compete.

We have limited experience in producing our products, and we may experience development or manufacturing problems or delays that could limit the growth of our revenue or increase our losses.

We are dependent on single source suppliers for some of the components and materials used in our systems, and the loss of any of these suppliers could harm our business.

Our ability to protect our intellectual property and proprietary technology through patents and other means is uncertain, and we are dependent on certain licensed-in technology. In addition, future third-party claims of intellectual property infringement could adversely affect our operations and financial condition.

Corporate History and Information

We were incorporated in California in May 1999 as Mycometrix Corporation, changed our name to Fluidigm Corporation in April 2001 and reincorporated in Delaware in July 2007. Our principal executive offices are located at 7000 Shoreline Court, Suite 100, South San Francisco, California 94080. Our telephone number is (650) 266-6000. Our website address is www.fluidigm.com. Information contained on our website is not incorporated by reference into this prospectus, and should not be considered to be part of this prospectus.

Fluidigm, the Fluidigm logo, Topaz, BioMark, AutoInspeX, MSL and NanoFlex are trademarks or registered trademarks of Fluidigm. Other service marks, trademarks and trade names referred to in this prospectus are the property of their respective owners.

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THE OFFERING

Common stock offered by us	shares
Common stock to be outstanding after this offering	shares
Use of proceeds	We intend to use the net proceeds from this offering to expand our sales force, support the commercialization of our products, continue research and development, expand our facilities and manufacturing operations and for working capital and other general corporate purposes. We may also use a portion of the net proceeds to acquire other businesses, products or technologies. However, we do not have agreements or commitments for any specific acquisitions at this time. See Use of Proceeds.
Proposed NASDAQ Global Market symbol	FLDM

The number of shares of our common stock to be outstanding following this offering is based on 66,638,462 shares of our common stock outstanding as of March 29, 2008, but excludes:

8,103,050 shares of common stock issuable upon exercise of options outstanding as of March 29, 2008 at a weighted average exercise price of $0.93 per share;

598,720 shares of common stock issuable upon the exercise of warrants outstanding as of March 29, 2008 at a weighted average exercise price of $2.97 per share, after conversion from preferred stock;

shares of common stock reserved for future issuance under our stock-based compensation plans, including shares of common stock reserved for issuance under our 2008 Equity Incentive Plan, which will become effective on the date of this prospectus, and any future automatic increase in shares reserved for issuance under such plan; and

1,503,945 shares of our Series E preferred stock issued upon the conversion of principal and accrued interest on a convertible promissory note held by Biomedical Sciences Investment Fund Pte Ltd on April 30, 2008.

Unless otherwise indicated, this prospectus reflects and assumes the following:

a -for- reverse split of our outstanding common stock and convertible preferred stock, to be effected prior to the completion of this offering;

the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 56,670,894 shares of common stock upon the closing of this offering;

the filing of our amended and restated certificate of incorporation immediately prior to the effectiveness of this offering; and

no exercise by the underwriters of their over-allotment option.

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SUMMARY CONSOLIDATED FINANCIAL DATA

We have derived the summary consolidated statement of operations data for the years ended December 31, 2005, December 31, 2006 and December 29, 2007 and the consolidated balance sheet data as of December 29, 2007 from our audited consolidated financial statements included elsewhere in this prospectus. We have derived the summary consolidated statement of operations data for the three months ended March 31, 2007 and March 29, 2008 and the consolidated balance sheet data as of March 29, 2008 from our unaudited consolidated financial statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in the future. The following summary consolidated financial data should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes, included elsewhere in this prospectus.

	Year Ended			Three Months Ended	
	December 31, 2005	December 31, 2006	December 29, 2007	March 31, 2007	March 29, 2008
				(unaudited)	
	(in thousands, except per share amounts)				
Consolidated Statement of Operations Data:					
Revenue:					
Product revenue	$ 6,076	$ 3,959	$ 4,451	$ 744	$ 1,917
Collaboration revenue	1,568	1,376	460	235	70
Grant revenue	30	1,063	2,364	589	527
Total revenue	7,674	6,398	7,275	1,568	2,514
Cost and expenses:					
Cost of product revenue	4,764	2,773	3,514	847	1,294
Research and development	11,449	15,589	14,389	3,473	3,280
Selling, general and administrative	7,955	9,699	12,898	2,758	4,463
Total costs and expenses	24,168	28,061	30,801	7,078	9,037
Loss from operations	(16,494)	(21,663)	(23,526)	(5,510)	(6,523)
Interest expense	(898)	(2,261)	(2,790)	(1,227)	(505)
Interest income	340	565	1,140	291	400
Other income (expense), net	30	(194)	(170)	112	39
Loss before provision for income taxes and cumulative effect of change in accounting principle	(17,022)	(23,553)	(25,346)	(6,334)	(6,589)
Provision for income taxes			(105)	(21)	(24)
Loss before cumulative effect of change in accounting principle	(17,022)	(23,553)	(25,451)	(6,355)	(6,613)
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Cumulative effect of change in accounting principle					
Net loss	$ (16,385)	$ (23,553)	$ (25,451)	$ (6,355)	$ (6,613)
Net loss per share of common stock, basic and diluted[1]	$ (1.82)	$ (2.53)	$ (2.63)	$ (0.67)	$ (0.67)
Shares used in computing net loss per share of common stock, basic and diluted[1]	9,018	9,316	9,671	9,510	9,913
Pro forma net loss per share of common stock, basic and diluted[1]	$				
Shares used in computing pro forma net loss per share of common stock, basic and diluted					

(1) Please see Note 2 to our audited consolidated financial statements for an explanation of the method used to calculate basic and diluted net loss per common share and pro forma net loss per common share.

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	As of March 29, 2008		
	Actual	Pro Forma[1] (in thousands) (unaudited)	Pro Forma As Adjusted[2][3]
Consolidated Balance Sheet Data:			
Cash and cash equivalents and available-for-sale securities	$ 31,235	$	$
Working capital	29,851		
Total assets	47,338		
Total long-term debt and convertible promissory notes	12,742		
Convertible preferred stock warrant liabilities	851		
Convertible preferred stock	162,082		
Total stockholders equity (deficit)	(136,921)		

(1) The pro forma balance sheet data in the table above reflects (i) the automatic conversion principal and accrued interest of a convertible promissory note held by Biomedical Sciences Investment Fund Pte Ltd into 1,503,945 shares of our common stock, which conversion occurred on April 30, 2008, (ii) the conversion of all outstanding shares of convertible preferred stock into common stock and (iii) the reclassification of the convertible preferred stock warrant liabilities to additional paid-in-capital, each effective upon the closing of this offering.

(2) The pro forma as adjusted balance sheet data in the table above also reflects the sale of shares of our common stock in this offering and the application of the net proceeds at an initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, would increase (decrease) each of cash, cash equivalents and available-for-sale securities, working capital, total assets and total stockholders equity by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions payable by us. Each increase of 1.0 million shares in the number of shares offered by us would increase each of cash, cash equivalents, available-for-sale securities, working capital, total assets and total stockholders equity by approximately $ million. Similarly, each decrease of 1.0 million shares in the number of shares offered by us would decrease each of cash, cash equivalents, available-for-sale securities, working capital, total assets and total stockholders equity by approximately $ million. The pro forma as adjusted information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this prospectus, including our consolidated financial statements and related notes, before deciding whether to purchase shares of our common stock. If any of the following risks is realized, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that event, the price of our common stock could decline and you could lose part or all of your investment.

Risks Related to our Business and Strategy

We have incurred losses since inception, and we expect to continue to incur substantial losses for the foreseeable future.

We have a limited operating history and have incurred significant losses in each fiscal year since our inception, including net losses of $16.4 million, $23.6 million, $25.5 million and $6.6 million during 2005, 2006, 2007 and the three months ended March 29, 2008. As of March 29, 2008, we had an accumulated deficit of $140.4 million. These losses have resulted principally from costs incurred in our research and development programs and from our selling, general and administrative expenses. We expect to continue to incur operating and net losses and negative cash flow from operations, which may increase, for the foreseeable future due in part to anticipated increases in expenses for research and product development and expansion of our sales and marketing capabilities. Additionally, following this offering, we expect that our selling, general and administrative expenses will increase due to the additional operational and reporting costs associated with being a public company. We anticipate that our business will generate operating losses until we successfully implement our commercial development strategy and generate significant additional revenues to support our level of operating expenses. Because of the numerous risks and uncertainties associated with our commercialization efforts and future product development, we are unable to predict when we will become profitable, and we may never become profitable. Even if we do achieve profitability, we may not be able to sustain or increase our profitability.

If our products fail to achieve and sustain sufficient market acceptance, our revenue will be adversely affected.

Our success depends, in part, on our ability to develop and market products that are recognized and accepted as reliable, enabling and cost effective. Most of our potential customers already use expensive research systems in their laboratories and may be reluctant to replace those systems. Market acceptance of our instrument systems will depend on many factors, including our ability to convince potential customers that our systems are an attractive alternative to existing technologies. Compared to other technologies, our Integrated Fluidic Circuit, or IFC, technology is new and unproven, and most potential customers have limited knowledge of, or experience with, our products. Prior to adopting our technology, potential customers generally need to devote significant effort to testing and validating our systems and benchmarking them against their current systems and performance requirements. Any failure of our systems to meet these customer benchmarks could result in customers choosing to retain their existing systems or to purchase systems other than ours.

In addition, many customers intend to publish the results of their experiments in scientific and medical journals. Therefore, it is important that our systems be perceived as accurate and reliable by the scientific and medical research community as a whole. Many factors influence the perception of a system including its use by leading research groups and the publication of their results in well regarded journals. A significant part of our sales and marketing efforts have been directed at convincing industry leaders of the advantages of our systems and encouraging such leaders to publish

or present the results of their evaluation of our system. If we are unable to induce leading researchers to use our system or if such researchers are unable to achieve and publish or present significant experimental results using our system, acceptance and adoption of our systems will be slowed.

Our sales cycle is lengthy and unpredictable, which makes it difficult for us to forecast revenue and could cause significant quarterly fluctuations in revenue and other operating results.

The sales cycles for our instrument systems is lengthy, which makes it difficult for us to accurately forecast revenues in a given period, and may cause revenue and operating results to vary significantly from period to period.

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Due in part to the high up-front cost associated with our systems, potential customers for our instrument systems typically need to commit significant time and resources to evaluate our technology and their decision to purchase our instruments may be further limited by budgetary constraints and several layers of internal review and approval, which are beyond our control. Even after initial approval by appropriate decision makers, the negotiation and documentation processes for a purchase can be lengthy. As a result of these factors, our sales cycle has varied widely and, in certain instances has been longer than 12 months. The complexity and variability of our sales cycle has made it difficult for us to accurately project quarterly revenues, and we have frequently failed to meet our internal quarterly projections. Moreover, we do not recognize revenue on sales of our systems until the system has been delivered to the customer and, in many instances, installed and our other revenue recognition criteria have been met. This further complicates our ability to project quarterly revenue as we may have entered into a sale agreement with a customer for a system but cannot predict when that customer will take delivery of the system and when we will be able to recognize the revenue. We expect that our sales will continue to fluctuate on a quarterly basis and that our financial results for some periods may be below those projected by securities analysts. Such fluctuations could have a material adverse effect on our business and on the price of our common stock.

Our sales efforts require significant time and effort and could hinder our ability to increase sales.

Before purchasing one of our systems, customers typically require input from one or more scientific evaluators as well as a review by personnel with finance or operational expertise. As a result, during our sales effort, we must identify all persons involved in the purchasing decision and devote a sufficient amount of time to presenting our systems to those individuals. The newness and complexity of our products often requires us to spend substantial time and effort assisting potential customers in evaluating our instruments including providing demonstrations and benchmarking our products against other available technologies. This process can be costly and time consuming. We expect that our sales process will become less burdensome as our products become more widely known and used. However, if this change does not occur, we will not be able to expand our sales effort as quickly as anticipated and our sales will be adversely affected.

Our future success is dependent upon our ability to expand our customer base and introduce new applications.

Our customer base is primarily composed of pharmaceutical and biotechnology companies, academic institutions and life science laboratories that perform large-scale experimentation for life science research purposes. Our success will depend in part upon our ability to increase our market share amongst these customers, attract life science research customers who do not currently perform large-scale experimentation, attract customers outside the life science research market and market new applications to existing and new customers as we develop such applications. Attracting new customers and introducing new applications requires substantial time and expense. For example, it may be difficult to identify, engage and market to customers who do not currently perform large-scale experimentation or are unfamiliar with our current applications. In addition, certain new applications that we are considering developing are not practical to perform with conventional techniques. Any failure to expand our existing customer base or launch new applications would adversely affect our ability to increase our revenues.

Our inability to develop new systems and enhance the capabilities of our IFC systems to keep pace with rapidly changing technology and customer requirements could adversely affect our business.

Our success depends on our ability to develop new applications for our IFC technology in existing and new markets, while improving the performance and cost effectiveness of our systems. New technologies, techniques or products could emerge that might offer better combinations of price and performance than our current or future product lines and systems. Existing markets for our products, including gene expression analysis, genotyping, digital polymerase chain reaction, or PCR, and proteomics, as well as potential markets for our products such as molecular diagnostics, are characterized by rapid technological change and innovation. It is critical to our success for us to anticipate changes

in technology and customer requirements and to successfully introduce new, enhanced and competitive technology to meet our customers and prospective customers needs on a timely basis. While we have planned substantial improvements to the BioMark system, including enhancing the capabilities of our IFCs, we may not be able to successfully implement these improvements. Even if we successfully implement some or all of these planned improvements, we could incur substantial development costs in doing so. We may not have adequate resources available to develop new technologies or be able to successfully introduce new applications of,

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or enhancements to, our systems. We cannot guarantee that we will be able to maintain technological advantages over emerging technologies in the future. If we fail to keep pace with emerging technologies, demand for our systems will not grow and may decline, and our business, revenue, financial condition and operating results could suffer materially.

We have limited resources for marketing, selling and distributing our products and we may not be able to develop a direct sales and marketing force or distribution capabilities that can meet our customers needs.

We have limited marketing, sales and distribution resources and capabilities. We sell our products primarily through our own sales force and through distributors in certain territories. Our first product line, the Topaz system for protein crystallization, was introduced for commercial sale in 2002. Our BioMark system was introduced for commercial sale in 2006.

Our future sales will depend in large part on our ability to develop and expand our direct sales force and to increase the scope of our marketing efforts. Our products are technically complex and used for highly specialized applications. As a result, we believe it is necessary to develop a direct sales force that includes people with specific scientific backgrounds and expertise and a marketing group with technical sophistication. Competition for such employees is intense. We may not be able to attract and retain personnel or be able to build an efficient and effective sales and marketing force, which could negatively impact sales of our products, and reduce our revenues and profitability.

In addition, we may seek to enlist one or more parties to assist with sales, distribution and customer support globally or in certain regions of the world. If we do seek to enter into such arrangements, we may not be successful in attracting desirable sales and distribution partners, or we may not be able to enter into such arrangements on favorable terms. If our sales and marketing efforts, or those of any third-party sales and distribution partners, are not successful, our technologies and products may not gain market acceptance, which would materially impact our business operations.

The life science industry is highly competitive and subject to rapid technological change, and we may not be able to successfully compete.

The markets for our products are characterized by rapidly changing technology, evolving industry standards, changes in customer needs, emerging competition, new product introductions and strong price competition. We compete with both established and development stage life science companies that design, manufacture and market instruments for gene expression analysis, genotyping, other nucleic acid detection and additional applications using well established laboratory techniques, as well as newer technologies such as bead encoded arrays, microfluidics, nanotechnology, next-generation DNA sequencing and inkjet and photolithographic arrays. Most of our current competitors have significantly greater name recognition, greater financial and human resources, broader product lines and product packages, larger sales forces, large existing installed bases, substantial intellectual property portfolios and greater experience in research and development, manufacturing and marketing than we do. For example, companies such as Affymetrix, Applied Biosystems, BioTrove, Illumina, Roche Diagnostics and Sequenom have products that compete in certain segments of the market in which we sell our BioMark system.

Competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements. In light of these advantages, even if our technology is more effective than the product or service offerings of our competitors, current or potential customers might accept competitive products and services in lieu of purchasing our technology. We anticipate that we will face increased competition in the future as existing companies and competitors develop new or improved products and as new companies enter the market with new technologies. We may not be able to compete effectively against these organizations. Increased competition is likely to result in pricing pressures, which could harm our sales, profitability or market share. Our failure to compete effectively could materially and adversely affect our business, financial

condition and results of operations.

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We receive a substantial portion of our revenue from a limited number of customers and other entities, and the loss of, or a significant reduction in, orders or grants from one or more of our major customers or grantors would adversely affect our operations and financial condition.

We receive a substantial portion of our revenue from a limited number of customers and grantors. We received an aggregate of approximately 30%, 44%, 24% and 16% of our total revenue from our top three customers in 2005, 2006, 2007 and the three months ended March 29, 2008. Grant revenue from the Singapore Economic Development Board, or EDB, represented 0%, 14%, 24% and 16% of our total revenue in 2005, 2006 and 2007 and the three months ended March 29, 2008. We anticipate that we will continue to be dependent on a limited number of customers and grantors for a significant portion of our revenue in the near future and in some cases the portion of our revenue attributable to certain customers or grantors may increase in the future. However, we may not be able to maintain or increase sales to our top customers or grants from our top grantors for a variety of reasons, including the following:

- our agreements with our customers and grantors do not require them to purchase a minimum quantity of our products or make a minimum amount of grants in any year;
- our customers can stop using our products with limited notice to us and suffer little or no payment penalty;
- our grants are subject to the achievement of milestones that we may not meet; and
- many of our customers have pre-existing or concurrent relationships with our current or potential competitors that may affect the customers decisions to purchase our products.

In the past, we have relied in significant part on our strategic relationships with customers that are technology leaders in our target markets. We intend to pursue the expansion of such relationships and the formation of new strategic relationships but we cannot assure you that we will be able to do so. These relationships often require us to develop new products that may involve significant technological challenges. Our customers frequently place considerable pressure on us to meet their tight development schedules. Our grantors frequently condition their present and future grants on our compliance with certain development, hiring and local investment milestones. Accordingly, we may have to devote a substantial amount of our resources to our strategic relationships, which could detract from or delay our completion of other important development projects. Delays in development could impair our relationships with our strategic customers and grantors and negatively impact sales of the products under development or future grant activity. The loss of a key customer or grantor, a reduction in sales to any key customer, a reduction in grants from a key grantor, or our inability to attract new significant customers could seriously impact our revenue and materially and adversely affect our results of operations.

Our business depends on research and development spending levels of pharmaceutical and biotechnology companies and academic, clinical and governmental research institutions and any reduction in such spending could limit our ability to sell our products.

We expect that our revenue in the foreseeable future will be derived primarily from sales of instruments and IFCs to academic institutions, biotechnology and pharmaceutical companies and life science laboratories worldwide. Our success will depend upon their demand for and use of our products. Accordingly, the spending policies of these customers could have a significant effect on the demand for our technology. These policies may be based on a wide variety of factors, including the resources available to make purchases, the spending priorities among various types of equipment, policies regarding spending during recessionary periods and changes in the political climate. In addition, academic, governmental and other research institutions that fund research and development activities may be subject to stringent budgetary constraints that could result in spending reductions, reduced allocations or budget cutbacks, which could jeopardize the ability of these customers to purchase our system. Our operating results may fluctuate

substantially due to reductions and delays in research and development expenditures by these customers. For example, reductions in capital expenditures by these customers may result in lower than expected system sales and, similarly, reductions in operating expenditures by these customers could result in lower than expected sales of IFCs. These reductions and delays may result from factors that are not within our control, such as:

changes in economic conditions;

changes in government programs that provide funding to research institutions and companies;

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changes in the regulatory environment affecting life science companies and life science research;

market-driven pressures on companies to consolidate operations and reduce costs;

mergers and acquisitions in the life science industry; and

other factors affecting research and development spending.

Any decrease in our customers budgets or expenditures or in the size, scope or frequency of capital or operating expenditures as a result of the foregoing or other factors could materially adversely affect our operations or financial condition.

If we cannot provide quality technical support, we could lose customers and our operating results could suffer.

The placement of our products at new customer sites, the introduction of our technology into our customers existing systems and ongoing customer support can be complex. Accordingly, we need highly trained technical support personnel. Hiring technical support personnel is very competitive in our industry due to the limited number of people available with the necessary biochemistry background and ability to understand our systems at a technical level. We are currently expanding our technical support staff and will need to increase it further to support expected new customers as well as the expanding needs of existing customers. If we are unable to attract, train or retain the number of highly qualified technical services personnel that our business needs, our business and prospects will suffer.

To use our products, customers typically need to purchase specialized reagents. Any interruption in the availability of these reagents for use in our products could limit our ability to market our products.

Our products must be used in conjunction with one or more reagents designed to produce or facilitate the particular biological or chemical reaction desired by the user. Many of these reagents are highly specialized and available to the user only from a single supplier or a limited number of suppliers. Our customers typically purchase these reagents directly from the suppliers and we have no control over the supply of those materials. In addition, our products are designed to work with these reagents as they are currently formulated. We have no control of the formulation of these reagents and the performance of our products might be adversely affected if the formulation of these reagents was changed. If one or more of these reagents were to become unavailable or were reformulated, our ability to market and sell our products could be materially and adversely affected.

In addition, the use of a reagent for a particular process may be covered by one or more patents relating to the reagent itself, the use of the reagent for the particular process, the performance of that process or the equipment required to perform the process. Typically, reagent suppliers, who are either the patent holders or their authorized licensees, sell the reagents along with a license or covenant not to sue with respect to such patents. The license accompanying the sale of a reagent often purports to restrict the purposes for which the reagent may be used. If a patent holder or authorized licensee were to assert against us or our customers that the license or covenant relating to a reagent precluded its use with our systems, our ability to sell and market our products could be materially and adversely affected. For example, the current applications of our BioMark system, which represented 41% of our product revenue in 2007, involve real-time polymerase chain reaction, or PCR, reactions. The primary producers of reagents for PCR reactions are Applied Biosystems and Roche Diagnostics, who are our direct competitors, and their licensees. These PCR reagents are sold pursuant to limited licenses or covenants not to sue with respect to patents held by these companies. We do not have any contractual relationship with Roche Diagnostics or Applied Biosystems regarding these PCR reagents, and we cannot assure you that these reagents will continue to be available to our customers for use with our systems, or that these patent holders will not seek to enforce their patents against us, our customers, or

suppliers.

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We are dependent on single source suppliers for some of the components and materials used in our systems, and the loss of any of these suppliers could harm our business.

We rely on single source suppliers for certain components and materials used in our systems. Of these single source suppliers, the loss of any of the following would require significant time and effort to locate and qualify an alternative source of supply:

An essential component of our BioMark system is a specialized thermal cycler that is available from a limited number of suppliers. We purchase this thermal cycler from one supplier, Eppendorf AG, which customizes it to our specifications pursuant to a supply agreement.

Our IFCs are fabricated using a specialized polymer that is available from a limited number of sources. In the past we have encountered quality issues that have reduced our manufacturing yield or required the use of additional manufacturing processes. We do not have a long term contract with our current sole supplier.

The plastic carriers that hold the core components of our IFCs need to be produced to specifications and tolerances that few manufacturers are able to meet. We have experienced quality issues in the past and, as a result, have recently switched suppliers. We do not have a long term contract with either of our current sole suppliers for particular carriers.

The reader for our BioMark system requires specialized high resolution camera lenses that are available from a limited number of sources. We do not have a long term contract with our current sole supplier.

Our reliance on these suppliers also subjects us to other risks that could harm our business, including the following:

we may be subject to increased component costs;

we are not a major customer of many of our suppliers, and these suppliers may therefore give other customers needs higher priority than ours;

we may not be able to obtain adequate supply in a timely manner or on commercially reasonable terms;

our suppliers may make errors in manufacturing components that could negatively affect the efficacy of our systems or cause delays in shipment of our systems; and

our suppliers may encounter financial hardships unrelated to our demand for components, which could inhibit their ability to fulfill our orders and meet our requirements.

We have in the past experienced supply problems with some of our suppliers, such as manufacturing errors, and may again experience problems in the future. We may not be able to quickly establish additional or replacement suppliers, particularly for our single source components. Any interruption or delay in the supply of components or materials, or our inability to obtain components or materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers and cause them to cancel orders or switch to competitive products.

We have limited experience in producing our products, and we may experience development or manufacturing problems or delays that could limit the growth of our revenue or increase our losses.

We have limited experience manufacturing and assembling our products in commercial quantities and we may encounter unforeseen situations that would result in delays or shortfalls. In addition, our production processes and assembly methods may have to change to accommodate any significant future expansion of our manufacturing capacity. If we are unable to keep up with demand for our products, our revenue could be impaired, market acceptance for our products could be adversely affected and our customers might instead purchase our competitors products. Our inability to successfully manufacture our products would have a material adverse effect on our operating results.

We first produced the IFCs used in our current Topaz system in June 2002 at our facility in South San Francisco. We have since moved our commercial production of IFCs to our facility in Singapore, which first produced commercial IFCs for our Topaz systems in October 2006 and first produced commercial IFCs for our BioMark

system in December 2007. Production of the elastomeric block that is at the core of our IFCs is a complex process requiring advanced clean rooms, sophisticated equipment and strict adherence to procedures. Any contamination of the clean room, equipment malfunction or failure to strictly follow procedures can significantly reduce our yield in one or more batches. Such a drop in yield can greatly increase our cost to manufacture our IFCs or, in more severe cases, require us to halt the manufacture of IFCs until the problem is resolved. Identifying and resolving the cause of a drop in yield can require substantial time and resources. We have had significant yield problems in the past and cannot assure you that these types of yield issues will not occur again. Sustained yield problems would have a material adverse affect on our business, financial condition and results of operations.

In addition, developing an IFC for a new application typically requires developing a specific production process for that type of IFC. While all of our IFCs are produced using the same basic processes, significant variations are required to ensure adequate yield of any particular type of IFC. Developing such a process can be very time consuming, and any unexpected difficulty in doing so can delay the introduction of a product. For example, in the second quarter of 2006, our ability to conduct demonstrations for potential customers for our BioMark system was impaired because we were unable to produce sufficient quantities of that IFC. Though these production problems were resolved, the delay in conducting customer demonstrations resulted in the loss and delay of orders from potential customers. We cannot assure you that we will not face similar difficulties in developing new processes in the future.

If we are unable to recruit and retain key executives and scientists, we may be unable to achieve our goals.

Our performance is substantially dependent on the performance of our senior management and key scientific and technical personnel, particularly Gajus V. Worthington, our President and Chief Executive Officer. We do not maintain fixed term employment contracts with any of our employees. The loss of the services of any member of our senior management or our scientific or technical staff might significantly delay or prevent the development of our products or achievement of other business objectives by diverting management s attention to transition matters and identification of suitable replacements, if any, and could have a material adverse effect on our business. We do not maintain significant key man life insurance on any of our employees.

In addition, our research and product development efforts could be delayed or curtailed if we are unable to attract, train and retain highly skilled employees, particularly, senior scientists and engineers. To expand our research and product development efforts we need additional people skilled in areas such as molecular and cellular biology, assay development and manufacturing. Competition for these people is intense. Because of the complex and technical nature of our system and the dynamic market in which we compete, any failure to attract and retain a sufficient number of qualified employees could materially harm our ability to develop and commercialize our technology.

We may be unable to manage our anticipated growth effectively.

The rapid growth of our business has placed a significant strain on our managerial, operational and financial resources and systems. We have increased the number of our employees from 78 at December 31, 2005 to 137 at March 29, 2008. In addition, since October 2006 we have commenced manufacturing operations in Singapore and opened sales offices in Europe and Japan. To execute our anticipated growth successfully, we must continue to attract and retain qualified personnel and manage and train them effectively. We must also upgrade our internal business processes and capabilities to create the scalability that a growing business demands.

We believe our primary commercial manufacturing facility located in Singapore is sufficient to meet our short-term manufacturing needs. However, the current lease for our manufacturing facility in Singapore expires in October 2008. In order to meet the long-term demand for our IFC systems, we believe that we will need to add to our existing manufacturing space in Singapore or move all of our manufacturing facilities to a new location in Singapore. Such a move will involve significant expense in connection with the establishment of new clean rooms, the movement and

installation of key manufacturing equipment and modifications to our manufacturing process and we cannot assure you that such a move would not delay or otherwise adversely affect our manufacturing activities.

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Further, our anticipated growth will place additional strain on our suppliers and manufacturing facilities, resulting in an increased need for us to carefully monitor quality assurance. Any failure by us to manage our growth effectively could have an adverse effect on our ability to achieve our development and commercialization goals.

Our research and product development efforts may not result in commercially viable products within the timeline anticipated, if at all.

Our business is dependent on the improvement of our existing products, our development of new products to serve existing markets and our development of new products to create new markets and applications that were previously not practical with existing systems. We intend to devote significant personnel and financial resources to research and development activities designed to advance the capabilities of our IFC technology. Our IFC technology is new and complex and the behavior of fluids and surrounding compounds in a nanoscale environment is difficult to predict in advance. Though we have developed design rules for the implementation of our IFC technology, these are frequently revised to reflect new insights we have gained about the technology. In addition, we have discovered that biological or chemical reactions sometimes behave differently when implemented on IFCs rather than in a standard laboratory environment. As a result, significant research and development efforts may be required to transfer even well-understood reactions to our technology. In the past, product development projects have been significantly delayed when we encountered unanticipated difficulties in implementing a process on our IFCs. We may have similar delays in the future, and we may not obtain any benefits from our research and development activities. Any delay or failure by us to develop new products or enhance existing products would have a substantial adverse effect on our business and results of operations.

Our products, although not currently regulated, could in the future be subject to regulation by the U.S. Food and Drug Administration or other regulatory agencies.

Our products are currently labeled and sold for research purposes only and are not subject to U.S. Food and Drug Administration, or FDA, clearance or approval. However, in the future, certain of our products or related applications could be subject to the FDA s regulation, the FDA s regulatory jurisdiction could be expanded to include our products, or both. For example, if we wished to label and market our products for use in performing clinical diagnostics, FDA clearance or approval would be required. Even where a product is exempted from FDA clearance or approval, the FDA may impose restrictions on how and to whom we can market and sell our products. Obtaining FDA approval can be expensive and uncertain, generally takes several years to obtain and requires detailed and comprehensive scientific and clinical data. Notwithstanding the expense, these efforts may never result in FDA approval or clearance. Even if we were to obtain regulatory approval or clearance, it may not be for the uses we believe are important or commercially attractive. As a result, these regulations and restrictions could materially and adversely affect our business, financial condition and results of operations. Similar laws and regulations are also in effect in many foreign countries that could affect our ability to market certain products. The number and scope of these requirements are increasing. We may not be able to obtain regulatory approvals in such countries or may incur significant costs in obtaining or maintaining our foreign regulatory approvals.

Our future capital needs are uncertain and we may need to raise additional funds in the future.

We believe that the net proceeds from this offering, together with our existing cash and cash equivalents, available for sale securities balances and cash receipts generated from sales of our products, will be sufficient to meet our anticipated cash requirements for at least the next 18 months. However, we may need to raise substantial additional capital to:

- expand the commercialization of our products;

fund our operations;

continue our research and development;

defend, in litigation or otherwise, any claims that we infringe third-party patents or violate other intellectual property rights;

commercialize new products; and

acquire companies and in-license products or intellectual property.

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Our future funding requirements will depend on many factors, including:

- market acceptance of our products;
- the cost of our research and development activities;
- the cost of filing and prosecuting patent applications;
- the cost of defending, in litigation or otherwise, any claims that we infringe third-party patents or violate other intellectual property rights;
- the cost and timing of regulatory clearances or approvals, if any;
- the cost and timing of establishing additional sales, marketing and distribution capabilities;
- the cost and timing of establishing additional technical support capabilities;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products and technologies, although we currently have no commitments or agreements relating to any of these types of transactions.

If we require additional funds in the future, such funds may not be available on acceptable terms, or at all.

We may require additional funds in the future and we may not be able to obtain such funds on acceptable terms, or at all. If we raise additional funds by issuing equity securities, our stockholders may experience dilution. Debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any debt or additional equity financing that we raise may contain terms that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish some rights to our technologies or our products, or grant licenses on terms that are not favorable to us. If we are unable to raise adequate funds, we may have to liquidate some or all of our assets, or delay, reduce the scope of or eliminate some or all of our development programs.

If we do not have, or are not able to obtain, sufficient funds, we may have to delay development or commercialization of our products or license to third parties the rights to commercialize products or technologies that we would otherwise seek to commercialize. We also may have to reduce marketing, customer support or other resources devoted to our products or cease operations. Any of these factors could harm our operating results.

Our products could have unknown defects or errors, which may give rise to claims against us and adversely affect market adoption of our systems.

Our IFC systems utilize novel and complex technology applied on a nanoliter scale and such systems may develop or contain undetected defects or errors. We cannot assure you that material performance problems, defects or errors will not arise, and as we increase the density and integration of our IFCs, these risks may increase. While we do not provide express warranties that our IFCs will meet performance expectations or be free from defects, we have done so in the past, and expect to in the future in response to customer concerns in order to preserve customer relationships and help foster continued adoption and use of our systems. We typically do provide warranties relating to other parts of our IFC systems. The costs incurred in correcting any defects or errors may be substantial and could adversely

affect our operating margins.

In manufacturing our products, we depend upon third parties for the supply of various components. Many of these components require a significant degree of technical expertise to produce. If our suppliers fail to produce components to specification, or if the suppliers, or we, use defective materials or workmanship in the manufacturing process, the reliability and performance of our products will be compromised.

If our products contain defects, we may experience:

- a failure to achieve market acceptance or expansion of our product sales;
- loss of customer orders and delay in order fulfillment;
- damage to our brand reputation;

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increased cost of our warranty program due to product repair or replacement;

product recalls or replacements;

inability to attract new customers;

diversion of resources from our manufacturing and research and development departments into our service department; and

legal claims against us, including product liability claims, which could be costly and time consuming to defend and result in substantial damages.

The occurrence of any one or more of the foregoing could negatively affect our business, financial condition and results of operations.

We generate a substantial portion of our revenues internationally and are subject to various risks relating to such international activities which could adversely affect our international sales and operating performance.

During 2005, 2006, 2007 and the three months ended March 29, 2008, approximately 28%, 40%, 52% and 49% of our total revenue was attributable to revenues generated outside of North America. We believe that a significant percentage of our future revenue will come from international sources as we expand our overseas operations and develop opportunities in additional international areas. Our international business may be adversely affected by changing economic, political and regulatory conditions in foreign countries. Because the majority of our product sales are currently denominated in U.S. dollars, if the value of the U.S. dollar increases relative to foreign currencies, our products could become more costly to the international consumer and therefore less competitive in international markets, which could affect our financial performance. In addition, if the value of the U.S. dollar decreases relative to the Singapore dollar, it would become more costly in U.S. dollars for us to manufacture our products in Singapore. Furthermore, fluctuations in exchange rates could reduce our revenue, particularly with respect to grant revenue under agreements in Singapore, and affect demand for our products. Engaging in international business inherently involves a number of other difficulties and risks, including:

required compliance with existing and changing foreign regulatory requirements and laws;

export or import restrictions;

laws and business practices favoring local companies;

longer payment cycles and difficulties in enforcing agreements and collecting receivables through certain foreign legal systems;

political and economic instability;

potentially adverse tax consequences, tariffs, customs charges, bureaucratic requirements and other trade barriers;

difficulties and costs of staffing and managing foreign operations; and

difficulties protecting or procuring intellectual property rights.

If one or more of these risks occurs, it could require us to dedicate significant resources to remedy, and if we are unsuccessful in finding a solution, our financial results will suffer.

We use hazardous chemicals and biological materials in our business. Any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.

Our research and development and manufacturing processes involve the controlled use of hazardous materials, including flammables, toxics, corrosives and biologics. Our operations produce hazardous biological and chemical waste products. We cannot eliminate the risk of accidental contamination or discharge and any resultant injury from these materials. In addition, our IFC systems involve the use of pressurized systems and may involve the use of hazardous materials, which could result in injury. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials. We do not currently maintain separate environmental liability

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coverage and any such contamination or discharge could result in significant cost to us in penalties, damages and suspension of our operations.

If our facilities become inoperable, we will be unable to continue manufacturing our products and as a result, our business will be harmed until we are able to secure a new facility.

We manufacture and assemble our IFCs for commercial sale at our facility in Singapore and assemble our instrument platforms at our facilities in Singapore and South San Francisco, California. No other manufacturing or assembly facilities are currently available to us. Our facilities and the equipment we use to manufacture our products would be costly to replace and could require substantial lead time to repair or replace. The facilities may be harmed or rendered inoperable by natural or man-made disasters, including earthquakes, flooding and power outages, which may render it difficult or impossible for us to perform our research, development and manufacturing for some period of time. The inability to perform our research, development and manufacturing activities, combined with our limited inventory of reserve raw materials and manufactured supplies, may result in the loss of customers or harm our reputation, and we may be unable to reestablish relationships with those customers in the future. Although we possess insurance for damage to our property and the disruption of our business, this insurance may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, or at all.

If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be adversely affected.

In connection with the audit of our consolidated financial statements for the years ended December 31, 2005 and 2006 we, together with our independent registered public accounting firm identified material weaknesses in our internal control over financial reporting.

The material weaknesses related to our financial statement close process, revenue recognition and accrual processes and inventory costing, cost of sales, purchases cut-off and stock-based compensation. These material weaknesses resulted in the recording of numerous audit adjustments over the two year period ending December 31, 2006. Since the date of our independent registered public accounting firm s reports on our consolidated financial statements for the years ended December 31, 2005 and 2006 and through the date of this prospectus, we have taken steps intended to remediate these material weaknesses, primarily through the hiring of additional accounting and finance personnel with technical accounting and financial reporting experience. In addition, we have implemented procedures and controls in the financial statement close process designed to improve the accuracy and timeliness in financial accounting and reporting.

In April and May 2008, we reviewed our internal control over financial reporting and concluded that we had certain significant deficiencies. A significant deficiency is defined as a deficiency, or combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those responsible for oversight of a company s financial reporting. The significant deficiencies identified by us related to: our controls for the consolidation and elimination entries relating to intercompany transfer pricing and elimination of intercompany profits embedded in deferred costs of our Japanese subsidiary; our controls for applying SFAS 123R to option grants with non-standard vesting terms and validation of stock compensation expenses calculated by our option tracking software; and our controls and procedures for the valuation of inventory.

We do not know the specific time frame that we will require to remediate the significant deficiencies identified. In addition, we expect to incur some incremental costs associated with this remediation. If we fail to enhance our internal control over financial reporting to meet the demands that will be placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act of 2002, or Sarbanes-Oxley Act, we may be unable to report our financial results accurately and prevent fraud. While we expect to remediate the significant deficiencies, we cannot assure you

that we will be able to do so in a timely manner, which could impair our ability to accurately and timely report our financial position, results of operations or cash flows.

No material weaknesses in internal control over financial reporting were identified in our April 2008 review. However, our management and independent registered public accounting firm did not perform an evaluation of our internal control over financial reporting during any period in accordance with the provisions of Section 404 of the

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Sarbanes-Oxley Act. Had we and our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of Section 404 of the Sarbanes-Oxley Act, additional control deficiencies may have been identified by management or our independent registered public accounting firm.

We will incur significant increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives.

We have never operated as a public company. As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act, as well as new rules subsequently implemented by the Securities and Exchange Commission and the NASDAQ Global Market, have imposed various new requirements on public companies, including requiring changes in corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these new compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect these new rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain the same or similar coverage.

In addition, the Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, commencing in 2009, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. Our testing, or the subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal control over financial reporting that are deemed to be material weaknesses. Our compliance with Section 404 will require that we incur substantial accounting expense and expend significant management time on compliance-related issues. We currently do not have an internal audit group and we will evaluate the need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge. Moreover, if we are not able to comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm identifies deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by the NASDAQ Global Market, the Securities and Exchange Commission or other regulatory authorities, which would require additional financial and management resources.

Some of our programs are partially supported by government grants, which may be reduced, withdrawn, delayed or reclaimed.

We have received and may continue to receive funds under research and economic development programs funded by the governments of Singapore and the United States. Funding by these governments may be significantly reduced or eliminated in the future for a number of reasons. For example, some U.S. programs are subject to a yearly appropriations process in Congress. Similarly, our grants from the Singapore government are part of an official policy to develop a life science industry in Singapore; that policy could change or the role of grants in it could be reduced or eliminated at any time. In addition, we may not receive funds under existing or future grants because of budgeting constraints of the agency administering the program. A restriction on the government funding available to us would reduce the resources that we would be able to devote to existing and future research and development efforts. Such a reduction could delay the introduction of new products and hurt our competitive position.

Our agreements with the Singapore Economic Development Board, or EDB, provide that our continued eligibility for reimbursements is subject to our operation of increasing levels of research, development and manufacturing in Singapore, including the use of local service providers, the hiring of personnel in Singapore, the incurrence of research

and development expenses in Singapore, our receipt of new investment in our company and our achievement of certain milestones relating to the development of our products. These agreements further provide EDB with the right to demand repayment of a portion of past grants in the event that it concludes that we have not met our obligations under the applicable agreements. Based on correspondence with EDB, we believe that we have satisfied the conditions applicable to our EDB grant revenue through March 29, 2008.

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Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code, a corporation that undergoes an ownership change is subject to limitations on its ability to utilize its pre-change net operating losses or NOLs to offset future taxable income. Our existing NOLs may be subject to limitations arising from previous ownership changes, and if we undergo an ownership change in connection with or after this offering, our ability to utilize NOLs could be further limited by Section 382 of the Internal Revenue Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Internal Revenue Code. We may not be able to utilize a material portion of the NOLs reflected on our balance sheet and for this reason, we have fully reserved against the value of our NOLs on our balance sheet.

Risks Related to Intellectual Property

Our ability to protect our intellectual property and proprietary technology through patents and other means is uncertain.

Our commercial success may depend in part on our ability to protect our intellectual property and proprietary technologies. We rely on patent protection, where appropriate and available, as well as a combination of copyright, trade secret and trademark laws, and nondisclosure, confidentiality and other contractual restrictions to protect our proprietary technology. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. Our pending U.S. and foreign patent applications may not issue as patents or may not issue in a form that will be advantageous to us. Any patents we have obtained or do obtain may be subject to re-examination, reissue, opposition or other administrative proceeding, or may be challenged in litigation, and such challenges could result in a determination that the patent is invalid or unenforceable. In addition, competitors may be able to design alternative methods or devices that avoid infringement of our patents. To the extent our intellectual property, including licensed intellectual property, offers inadequate protection, or is found to be invalid or unenforceable, we are exposed to a greater risk of direct competition. If our intellectual property does not provide adequate protection against our competitors products, our competitive position could be adversely affected, as could our business. Both the patent application process and the process of managing patent disputes can be time consuming and expensive. Furthermore, the laws of some foreign countries may not protect our intellectual property rights to the same extent as do the laws of the United States.

The patent positions of life science companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in such companies patents has emerged to date in the United States. The laws of some non-U.S. countries do not protect intellectual property rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement of our patents. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business. Changes in either the patent laws or in interpretations of patent laws in the United States or other countries may diminish the value of our intellectual property. We cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. For example:

We might not have been the first to make the inventions covered by each of our pending patent applications.

We might not have been the first to file patent applications for these inventions.

Others may independently develop similar or alternative products and technologies or duplicate any of our products and technologies.

It is possible that none of our pending patent applications will result in issued patents, and even if they issue as patents, they may not provide a basis for commercially viable products, or may not provide us with any competitive advantages, or may be challenged and invalidated by third parties.

We may not develop additional proprietary products and technologies that are patentable.

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The patents of others may have an adverse effect on our business.

We apply for patents covering our products and technologies and uses thereof, as we deem appropriate. However, we may fail to apply for patents on important products and technologies in a timely fashion or at all.

In addition to pursuing patents on our technology, we take steps to protect our intellectual property and proprietary technology by entering into confidentiality agreements and intellectual property assignment agreements with our employees, consultants, corporate partners and, when needed, our advisors. Such agreements may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements, and we may not be able to prevent such unauthorized disclosure. Monitoring unauthorized disclosure is difficult, and we do not know whether the steps we have taken to prevent such disclosure are, or will be, adequate. If we were to enforce a claim that a third party had illegally obtained and was using our trade secrets, it would be expensive and time consuming, and the outcome would be unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets.

We depend on certain technologies that are licensed to us. We do not control these technologies and any loss of our rights to them could prevent us from selling our products.

We rely on licenses in order to be able to use various proprietary technologies that are material to our business, including our core integrated fluidic circuit and multi-layer soft lithography technologies. We do not own the patents that underlie these licenses. Our rights to use these technologies and employ the inventions claimed in the licensed patents are subject to the negotiation of, continuation of and compliance with the terms of those licenses. In some cases, we do not control the prosecution, maintenance, or filing of the patents to which we hold licenses, or the enforcement of these patents against third parties. Some of our patents and patent applications were either acquired from another company who acquired those patents and patent applications from yet another company, or are licensed from a third party. Thus, these patents and patent applications are not written by us or our attorneys, and we did not have control over the drafting and prosecution. The former patent owners and our licensors might not have given the same attention to the drafting and prosecution of these patents and applications as we would have if we had been the owners of the patents and applications and had control over the drafting and prosecution. We cannot be certain that drafting and/or prosecution of the licensed patents and patent applications by the licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights. Enforcement of our licensed patents or defense or any claims asserting the invalidity of these patents is often subject to the control or cooperation of our licensors. Certain of our licenses contain provisions that allow the licensor to terminate the license upon specific conditions. Our rights under the licenses are subject to our continued compliance with the terms of the license, including the payment of royalties due under the license. Because of the complexity of our products and the patents we have licensed, determining the scope of the license and related royalty obligation can be difficult and can lead to disputes between us and the licensor. An unfavorable resolution of such a dispute could lead to an increase in the royalties payable pursuant to the license. If a licensor believed we were not paying the royalties due under the license or were otherwise not in compliance with the terms of the license, the licensor might attempt to revoke the license. If such an attempt were successful, we might be barred from producing and selling some or all of our products.

We are subject to certain U.S. government regulations because we have licensed technologies that were developed with U.S. government grants. These licenses provide that products embodying the technologies will be manufactured substantially in the United States. If this domestic manufacturing requirement is not met, the government agency that funded the relevant grant is entitled to exercise specified rights, referred to as march-in rights, which if exercised would allow the government agency to require the licensors or us to grant a non-exclusive, partially exclusive or exclusive license in any field of use to a third party designated by such agency. The federal regulations allow the

funding government agency to grant, at the request of the licensors of such technology, a waiver of the domestic manufacturing requirement. Most of our products, including all of our commercial IFCs, incorporate technologies that were developed with U.S. government grants and are currently manufactured in Singapore. We are assisting the licensors of these technologies with the analysis of both the domestic manufacturing requirement and the preparation of any associated waiver requests. If it were to be determined that we are in violation of the domestic manufacturing requirement and a waiver of such requirement was either not requested or

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not granted, then the U.S. government could exercise its march-in rights. In such event, our sales and manufacturing could be materially disrupted, and our business, operations and financial condition could suffer materially.

We may be involved in lawsuits to protect or enforce our patents and proprietary rights and to determine the scope, coverage and validity of others proprietary rights.

Litigation may be necessary to enforce our patent and proprietary rights and/or to determine the scope, coverage and validity of others proprietary rights. Litigation on these matters has been prevalent in our industry and we expect that this will continue. To determine the priority of inventions, we may have to initiate and participate in interference and re-examination proceedings declared by the U.S. Patent and Trademark Office that could result in substantial legal fees and could substantially affect the scope of our patent protection. Also, our intellectual property may be subject to significant administrative and litigation proceedings such as invalidity, unenforceability and opposition proceedings against our patents. The outcome of any litigation or interference proceeding might not be favorable to us, and we might not be able to obtain licenses to technology that we require. Even if such licenses are obtainable, they may not be available at a reasonable cost. In addition, if we resort to legal proceedings to enforce our intellectual property rights or to determine the validity, scope and coverage of the intellectual property or other proprietary rights of others, the proceedings could be burdensome and expensive, even if we were to prevail. Any litigation that may be necessary in the future could result in substantial costs and diversion of resources and could have a material adverse effect on our business, operating results or financial condition.

Litigation, other proceedings or third party claims of intellectual property infringement could require us to spend significant time and money and could prevent us from selling our products or services or impact our stock price.

Our commercial success may depend in part on our non-infringement of the patents or proprietary rights of third parties. Third parties have asserted and may assert in the future that we are employing their proprietary technology without authorization. Competitors may assert that our products infringe their intellectual property rights as part of a business strategy to impede our successful entry into those markets. For example, numerous significant intellectual property issues have been litigated between existing and new participants in the PCR market, including litigation initiated by Applied Biosystems, Inc., one of our competitors. In addition, our competitors and others may have patents or may in the future obtain patents and claim that use of our products infringes these patents. We could incur substantial costs and divert the attention of our management and technical personnel in defending against any of these claims. Parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize and sell products, and could result in the award of substantial damages against us. In the event of a successful claim of infringement against us, we may be required to pay damages and obtain one or more licenses from third parties, or be prohibited from selling certain products. We may not be able to obtain these licenses at a reasonable cost, if at all. We could therefore incur substantial costs related to royalty payments for licenses obtained from third parties, which could negatively affect our gross margins. In addition, we could encounter delays in product introductions while we attempt to develop alternative methods or products to avoid infringing third-party patents or proprietary rights. Defense of any lawsuit or failure to obtain any of these licenses on favorable terms could prevent us from commercializing products, and the prohibition of sale of any of our products could materially affect our ability to grow and gain market acceptance for our products.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of our employees former employers.

Many of our employees were previously employed at universities or other life science companies, including our competitors or potential competitors. Although no claims against us are currently pending, we may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other

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proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A loss of key research personnel or their work product could hamper or prevent our ability to commercialize certain potential products, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Risks Related to Our Common Stock and this Offering

We expect that our stock price will fluctuate significantly, and you may not be able to resell your shares at or above the initial public offering price.

Prior to this offering, there has been no public market for shares of our common stock. We cannot predict the extent to which investor interest in our company will lead to the development of an active trading market on the NASDAQ Global Market or otherwise or how liquid that market might become. If an active trading market does not develop, you may have difficulty selling any of our shares of common stock that you buy. We and the underwriters will determine the initial public offering price of our common stock through negotiation. This price will not necessarily reflect the price at which investors in the market will be willing to buy and sell our shares following this offering. In addition, the trading price of our common stock following this offering may be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. These factors include:

- actual or anticipated quarterly variation in our results of operations or the results of our competitors;
- announcements by us or our competitors of new commercial products, significant contracts, commercial relationships or capital commitments;
- issuance of new or changed securities analysts reports or recommendations for our stock;
- developments or disputes concerning our intellectual property or other proprietary rights;
- commencement of, or our involvement in, litigation;
- market conditions in the life science sector;
- any major change in our Board or management; and
- general economic conditions and slow or negative growth of our markets.

The trading market for our common stock will rely in part on the research and reports that equity research analysts publish about us and our business. We do not control these analysts or the content and opinions included in their reports. Securities analysts may elect not to provide research coverage of our common stock after the completion of this offering, and such lack of research coverage may adversely affect the market price of our common stock. The price of our stock could decline if one or more equity research analysts downgrade our stock or if those analysts issue other unfavorable commentary or cease publishing reports about us or our business. If one or more equity research analysts ceases coverage of our company, we could lose visibility in the market, which in turn could cause our stock price to decline.

Purchasers in this offering will experience immediate and substantial dilution in the book value of their investment.

The initial public offering price of our common stock is substantially higher than the net tangible book value per share of our common stock immediately after this offering. Therefore, if you purchase our common stock in this offering, you will incur an immediate dilution of $ in net tangible book value per share from the price you paid, based on an assumed initial public offering price of $ per share, the mid-point of the range set forth on the cover page of this prospectus. In addition, new investors who purchase shares in this offering will contribute approximately % of the total amount of equity capital raised by us through the date of this offering, but will only own approximately % of the outstanding share capital and approximately % of the voting rights. The exercise of outstanding options and warrants will result in further dilution. For a further description of the dilution that you will experience immediately after this offering, see Dilution.

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Future sales of shares by existing stockholders could cause our stock price to decline.

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after the lock-up and other legal restrictions on resale discussed in this prospectus lapse, the trading price of our common stock could decline. Based on shares outstanding as of April 30, 2008, upon completion of this offering, we will have outstanding a total of shares of common stock, assuming no exercise of the underwriters over-allotment option. Of these shares, only the shares of common stock sold in this offering by us will be freely tradable, without restriction, in the public market immediately after the offering. Each of our directors and officers, and certain of our stockholders, have entered into lock-up agreements with the underwriters that restrict their ability to sell or transfer their shares. The lock-up agreements pertaining to this offering will expire 180 days from the date of this prospectus, although they may be extended for up to an additional 34 days under certain circumstances. Our underwriters, however, may, in their sole discretion, permit our officers, directors and other current stockholders who are subject to the contractual lock-up to sell shares prior to the expiration of the lock-up agreements. After the lock-up agreements expire, based on shares outstanding as of April 30, 2008, up to an additional 68,101,494 shares of common stock will be eligible for sale in the public market, of which are held by directors, executive officers and other affiliates and will be subject to volume limitations under Rule 144 under the Securities Act and various vesting agreements. In addition, shares of common stock that are subject to outstanding options as of April 30, 2008 will become eligible for sale in the public market to the extent permitted by the provisions of various vesting agreements, the lock-up agreements and Rules 144 and 701 under the Securities Act. If these additional shares are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

Our directors and executive officers will continue to have substantial control over us after this offering and could limit your ability to influence the outcome of key transactions, including changes of control.

Our executive officers, directors and their affiliates will beneficially own or control approximately % of the outstanding shares of our common stock, following the completion of this offering. Accordingly, these executive officers, directors and their affiliates, acting as a group, will have substantial influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets or any other significant corporate transactions. These stockholders may also delay or prevent a change of control of us, even if such a change of control would benefit our other stockholders. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors perception that conflicts of interest may exist or arise.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our certificate of incorporation and bylaws, as amended and restated upon the closing of this offering, may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and amended and restated bylaws to become effective upon completion of this offering include provisions that:

- authorize our Board of Directors to issue, without further action by the stockholders, up to 20,000,000 shares of undesignated preferred stock;

- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;

specify that special meetings of our stockholders can be called only by our Board of Directors, the Chairman of the Board, the Chief Executive Officer or the President;

establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our Board of Directors;

establish that our Board of Directors is divided into three classes, Class I, Class II and Class III, with each class serving staggered terms;

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provide that our directors may be removed only for cause;

provide that vacancies on our Board of Directors may be filled only by a majority of directors then in office, even though less than a quorum;

specify that no stockholder is permitted to cumulate votes at any election of directors; and

require a super-majority of votes to amend certain of the above-mentioned provisions.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

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

We have never paid dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future.

We have paid no cash dividends on any of our classes of capital stock to date, have contractual restrictions against paying cash dividends and currently intend to retain our future earnings to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus includes forward-looking statements that relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Words such as, but not limited to, believe, expect, anticipate, estimate, intend, plan, targets, likely, will, would, could, and similar expressio negative of those expressions or phrases identify forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we caution you that these statements are based on our projections of the future that are subject to known and unknown risks and uncertainties and other factors that may cause our actual results, level of activity, performance or achievements expressed or implied by these forward-looking statements, to differ. The sections in this prospectus entitled Risk Factors, Management s Discussion and Analysis of Financial Condition and Results of Operations and Business, as well as other sections in this prospectus, discuss some of the factors that could contribute to these differences.

Other unknown or unpredictable factors also could harm our results. Consequently, actual results or developments anticipated by us may not be realized or, even if substantially realized, may not have the expected consequences to, or effects on, us. Given these uncertainties, prospective investors are cautioned not to place undue reliance on such forward-looking statements. Except as required by law, we undertake no obligation to update or revise publicly any of the forward-looking statements after the date of this prospectus.

This prospectus contains market data that we obtained from industry sources. These sources do not guarantee the accuracy or completeness of the information. Although we believe that the industry sources are reliable, we have not independently verified the information. The market data include projections that are based on a number of projections. While we believe these assumptions to be reasonable and sound as of the date of this prospectus, if these assumptions turn out to be incorrect, actual results may differ from the projections based on these assumptions.

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USE OF PROCEEDS

We estimate that the net proceeds from the sale of shares of our common stock that we are selling in this offering will be $ million, based on an assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses. A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the net proceeds to us by $ million, after deducting estimated underwriting discounts and commissions and estimated offering expenses, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. We may also increase or decrease the number of shares we are offering. An increase of 1.0 million shares in the number of shares offered by us would increase the net proceeds to us by $ million. Similarly, a decrease of 1.0 million shares in the number of shares offered by us would decrease the net proceeds to us by $ million. If the underwriters over-allotment option is exercised in full, we estimate that we will receive net proceeds of $ million.

Of the net proceeds that we will receive from this offering, we expect to use approximately:

- $ million for sales and marketing initiatives, including significantly expanding our sales force, to support the ongoing commercialization of our products;
- $ for research and product development activities;
- $ million to expand our facilities and manufacturing operations; and
- the balance for working capital and other general corporate purposes.

We may also use a portion of our net proceeds to acquire and invest in complementary products, technologies or businesses; however, we currently have no agreements or commitments to complete any such transaction and are not involved in negotiations to do so. Pending these uses, we intend to invest our net proceeds from this offering primarily in investment-grade, interest-bearing instruments.

As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering. The amount and timing of our expenditures will depend on several factors, including cash flows from our operations and the anticipated growth of our business. Accordingly, our management will have broad discretion in the application of the net proceeds and investors will be relying on the judgment of our management regarding the application of the proceeds from this offering. We reserve the right to change the use of these proceeds as a result of certain contingencies such as the results of our commercialization efforts, competitive developments, opportunities to acquire products, technologies or businesses and other factors.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all future earnings for the operation and expansion of our business and, therefore, we do not anticipate declaring or paying cash dividends in the foreseeable future. The payment of dividends will be at the discretion of our Board of Directors and will depend on our results of operations, capital requirements, financial condition, prospects, contractual arrangements, any limitations on payment of dividends present in our current and future debt agreements, and other factors that our Board of Directors may deem relevant. In addition, we are subject to several covenants under our debt arrangements that place restrictions on our ability to pay dividends.

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CAPITALIZATION

The following table sets forth our capitalization as of March 29, 2008:

- on an actual basis;
- on a pro forma basis to give effect to (1) the conversion of principal and accrued interest on a convertible promissory note held by Biomedical Sciences Investment Fund Pte Ltd into 1,503,945 shares of our Series E preferred stock on April 30, 2008, (2) the conversion of all outstanding shares of convertible preferred stock into common stock and (3) the reclassification of the convertible preferred stock warrant liabilities to additional paid-in-capital, each effective upon the closing of this offering; and
- on a pro forma as adjusted basis to also give effect to the pro forma conversions and reclassifications described above and the sale of shares of our common stock in this offering and the application of the net proceeds at the assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table together with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes included elsewhere in this prospectus.

	As of March 29, 2008		
	Actual	Pro Forma	Pro Forma as Adjusted[1]
	(unaudited)		
	(in thousands, except per share amounts)		
Long-term debt, net of current portion	$ 3,178	$	$
Convertible promissory notes	5,150		
Convertible preferred stock warrant liabilities	851		
Convertible preferred stock issuable in series, $0.001 par value: 61,798 shares authorized, 56,671 shares issued and outstanding (actual); no shares authorized, issued or outstanding (pro forma and pro forma as adjusted)	162,082		
Stockholders equity (deficit):			
Common stock, $0.001 par value: 87,386 shares authorized, 9,928 shares issued and outstanding (actual); shares authorized, shares issued and outstanding (pro forma); shares authorized, shares issued and outstanding (pro forma as adjusted)	10		
Preferred stock, $0.001 par value: no shares authorized, no shares issued (actual); shares authorized, no shares issued (pro forma and pro forma as adjusted)			
Additional paid-in capital[1]	3,824		
Accumulated other comprehensive loss	(344)		

Accumulated deficit	(140,411)		
Total stockholders equity (deficit)[1]	(136,921)		
Total capitalization[1]	$ 34,340	$	$

(1) A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, would increase (decrease) each of additional paid-in capital, total stockholders equity and total capitalization by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions payable by us. Each increase of 1.0 million shares in the number of shares offered by us, together with a $1.00 increase in the assumed offering price of $ per share, would increase additional paid-in capital, total

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stockholders equity and total capitalization by approximately $ million. Similarly, each decrease of 1.0 million shares in the number of shares offered by us, together with a $1.00 decrease in the assumed offering price of $ per share, would decrease additional paid-in capital, total stockholders equity and total capitalization by approximately $ million. The pro forma as adjusted information discussed above is illustrative only and will adjust based on the actual public offering price and terms of this offering determined at pricing.

The table above excludes the following shares:

8,103,050 shares of common stock issuable upon exercise of options outstanding as of March 29, 2008 at a weighted average exercise price of $0.93 per share;

598,720 shares of common stock issuable upon the exercise of warrants outstanding as of March 29, 2008 at a weighted average exercise price of $2.97 per share, after conversion from preferred stock;

shares of common stock reserved for future issuance under our stock-based compensation plans, including shares of common stock reserved for issuance under our 2008 Equity Incentive Plan, and any future increase in shares reserved for issuance under such plan, each of which will become effective on the date of this prospectus; and

27,084 shares of common stock that were legally issued and outstanding but were not included in stockholders deficit as of March 29, 2008 pursuant to accounting principles generally accepted in the United States, as these shares were subject to a right of repurchase by us.

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DILUTION

If you invest in our common stock, your interest will be diluted to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering. Net tangible book value dilution per share to new investors represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the pro forma as adjusted net tangible book value per share of common stock immediately after completion of this offering.

Net tangible book value per share is determined by dividing our total tangible assets less our total liabilities by the number of shares of common stock outstanding. Our historical net tangible book value (deficit) as of March 29, 2008, was $25.2 million, or $2.53 per share. Our pro forma net tangible book value as of March 29, 2008 was $ million, or $ per share, based on the total number of shares of our common stock outstanding as of March 29, 2008, after giving effect to (1) the conversion of an outstanding convertible promissory note into 1,503,945 shares of common stock, (2) the conversion of all outstanding shares of our convertible preferred stock into common stock and (3) the reclassification of the convertible preferred stock warrant liabilities to additional paid-in-capital, each effective upon the closing of this offering.

After giving effect to our sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses, our pro forma as adjusted net tangible book value as of March 29, 2008 would have been $ million, or $ per share. This represents an immediate increase in net tangible book value of $ per share to existing stockholders and an immediate dilution in net tangible book value of $ per share to purchasers of common stock in this offering, as illustrated in the following table:

Assumed initial public offering price per share		$
Historical net tangible book value per share as of March 29, 2008	$ 2.53	
Pro forma as adjusted net tangible book value per share as of March 29, 2008	$	
Increase in pro forma as adjusted net tangible book value per share attributable to new investors	$	
Pro forma as adjusted net tangible book value per share after this offering		$
Pro forma dilution per share to new investors in this offering		$

Each $1.00 increase (decrease) in the assumed public offering price of $ per share, the mid-point of the range set forth on the cover of this prospectus, would increase (decrease) our pro forma as adjusted net tangible book value by approximately $ million, or approximately $ per share, and the pro forma dilution per share to investors in this offering by approximately $ per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions. We may also increase or decrease the number of shares we are offering. An increase of 1.0 million shares in the number of shares offered by us, together with a $1.00 increase in the assumed offering price of $ per share, would result in a pro forma as adjusted net tangible book value of approximately $ million, or $ per share, and the pro forma dilution per share to investors in this offering would be $ per share. Similarly, a decrease of 1.0 million shares in the number of shares offered by us, together with a $1.00 decrease in the assumed public offering price of $ per share, would result in an pro forma as adjusted net tangible book value of approximately $ million, or $ per share, and the pro forma dilution per share to investors in this offering would be $ per share. The pro forma as adjusted information discussed above is illustrative only and will adjust based on the actual public offering price and

other terms of this offering determined at pricing.

If the underwriters over-allotment option is exercised in full, the pro forma as adjusted net tangible book value per share after this offering would be $ per share, the increase in pro forma as adjusted net tangible book value per share to existing stockholders would be $ per share and the dilution to new investors purchasing shares in this offering would be $ per share.

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The following table presents on a pro forma as adjusted basis as of March 29, 2008, after giving effect to the automatic conversion of all outstanding shares of convertible preferred stock into common stock, the differences between the existing stockholders and the purchasers of shares in this offering with respect to the number of shares purchased from us, the total consideration paid and the average price paid per share, and before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us (in thousands, except per share amounts and percentages):

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders		%	$	%	$
New investors					
Totals		100.0%	$	100.0%	$

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the total consideration paid to us by new investors and total consideration paid to us by all stockholder by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions payable by us. An increase of 1.0 million shares in the number of shares offered by us would increase the total consideration paid to us by new investors and total consideration paid to us by all stockholder by $ million. Similarly, a decrease of 1.0 million shares in the number of shares offered by us would decrease the total consideration paid to us by new investors and total consideration paid to us by all stockholder by $ million.

If the underwriters exercise their over-allotment option in full, our existing stockholders would own % and our new investors would own % of the total number of shares of our common stock outstanding after this offering.

The table above excludes the following shares:

8,103,050 shares of common stock issuable upon exercise of options outstanding as of March 29, 2008 at a weighted average exercise price of $0.93 per share;

598,720 shares of common stock issuable upon the exercise of warrants outstanding as of March 29, 2008 at a weighted average exercise price of $2.97 per share;

shares of common stock reserved for future issuance under our stock-based compensation plans, including shares of common stock reserved for issuance under our 2008 Equity Incentive Plan, which will become effective on the date of this prospectus; and

27,084 shares of common stock that were legally issued and outstanding but were not included in stockholders deficit as of March 29, 2008 pursuant to accounting principles generally accepted in the United States, as these shares were subject to a right of repurchase by us.

Assuming the exercise in full of the outstanding options and warrants, pro forma net tangible book value before this offering at March 29, 2008 would be $ per share, and after giving effect to the sale of shares in this offering, there would be immediate dilution of $ per share to new investors in this offering.

Effective upon the closing of this offering, an aggregate of shares of our common stock will be reserved for future issuance under our benefit plans. To the extent that any of these options or warrants are exercised, new options are issued under our benefit plans or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering.

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SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes included elsewhere in this prospectus. We have derived the selected consolidated statement of operations data for the years ended December 31, 2005, December 31, 2006 and December 29, 2007 and the selected consolidated balance sheet data as of December 31, 2006 and December 29, 2007 from our audited consolidated financial statements included elsewhere in this prospectus. We have derived the summary consolidated statement of operations data for the three months ended March 31, 2007 and March 29, 2008 and the consolidated balance sheet data as of March 29, 2008 from our unaudited consolidated financial statements included elsewhere in this prospectus. We have derived the selected consolidated statement of operations data for the years ended December 31, 2003 and 2004 and the selected consolidated balance sheet data as of December 31, 2003, 2004 and 2005 from our audited consolidated financial statements not included in this prospectus. Our historical results are not necessarily indicative of the results to be expected for any future period.

	Year Ended					Three Months Ended	
	December 31, 2003	December 31, 2004	December 31, 2005	December 31, 2006	December 29, 2007	March 31, 2007	March 29, 2008
						(Unaudited)	
	(in thousands, except per share amounts)						
Consolidated Statement of Operations Data:							
Revenue:							
Product revenue	$ 3,133	$ 4,603	$ 6,076	$ 3,959	$ 4,451	$ 744	$ 1,917
Collaboration revenue		366	1,568	1,376	460	235	70
Grant revenue		70	30	1,063	2,364	589	527
Total revenue	3,133	5,039	7,674	6,398	7,275	1,568	2,514
Costs and expenses:							
Cost of product revenue	1,918	3,362	4,764	2,773	3,514	847	1,294
Research and development	11,218	9,608	11,449	15,589	14,389	3,473	3,280
Selling, general and administrative	7,263	8,690	7,955	9,699	12,898	2,758	4,463
Total costs and expenses	20,399	21,660	24,168	28,061	30,801	7,078	9,037
Loss from operations	(17,266)	(16,621)	(16,494)	(21,663)	(23,526)	(5,510)	(6,523)
Interest expense	(305)	(508)	(898)	(2,261)	(2,790)	(1,227)	(505)
Interest income	267	291	340	565	1,140	291	400

Other income (expense), net			30	(194)	(170)	112	39
Loss before provision for income taxes and cumulative of change in accounting principle	(17,304)	(16,838)	(17,022)	(23,553)	(25,346)	(6,334)	(6,589)
Provision for income taxes					(105)	(21)	(24)
Loss before cumulative effect of change in accounting principle	(17,304)	(16,838)	(17,022)	(23,553)	(25,451)	(6,355)	(6,613)
Cumulative effect of change in accounting principle			637				
Net loss	$ (17,304)	$ (16,838)	$ (16,385)	$ (23,553)	$ (25,451)	$ (6,355)	$ (6,613)
Net loss per share of common stock, basic and diluted[(1)]	$ (2.23)	$ (1.98)	$ (1.82)	$ (2.53)	$ (2.63)	$ (0.67)	$ (0.67)
Shares used in computing net loss per share of common stock, basic and diluted[(1)]	7,775	8,505	9,018	9,316	9,671	9,510	9,913

(1) Please see Note 2 to our audited consolidated financial statements for an explanation of the method used to calculate basic and diluted net loss per share.

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	As of					
	December 31, 2003	December 31, 2004	December 31, 2005	December 31, 2006	December 29, 2007	March 29, 2008 (unaudited)
	(in thousands)					
Consolidated Balance Sheet Data:						
Cash and cash equivalents and available-for-sale securities	$ 28,874	$ 12,520	$ 19,659	$ 25,518	$ 40,363	$ 31,235
Working capital	23,590	9,610	14,764	23,964	38,754	29,851
Total assets	34,908	20,150	27,750	36,493	54,776	47,338
Total long-term debt and convertible promissory notes	5,261	6,111	16,800	25,910	14,359	12,742
Convertible preferred stock warrant liabilities			814	223	468	851
Convertible preferred stock	75,072	76,596	88,966	112,295	162,082	162,082
Total stockholder s deficit	(49,812)	(65,471)	(83,154)	(106,172)	(130,331)	(136,921)

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MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of the financial condition and results of our operations should be read in conjunction with the consolidated financial statements and related notes included elsewhere in this prospectus. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled Risk Factors included elsewhere in this prospectus.

Overview

We develop, manufacture and market proprietary Integrated Fluidic Circuit systems that significantly improve productivity in the life science industry. Our Integrated Fluidic Circuits, or IFCs, enable the simultaneous performance of thousands of biochemical measurements in extremely minute volumes. We created this integrated circuit for biology by achieving unprecedented miniaturization, integration and automation of sophisticated liquid handling processes on a single microfabricated device. Particularly in large-scale experimentation, our IFC systems, consisting of instrumentation, software and single-use IFCs, increase throughput, decrease costs and enhance sensitivity compared to conventional laboratory systems. We have sold our IFCs to over 100 customers, including many leading biotechnology and pharmaceutical companies, academic institutions, and life science laboratories worldwide.

We have commercialized IFC systems for a wide range of life science applications, including our BioMark system for gene expression analysis, genotyping and digital PCR, and our Topaz system for protein crystallization. Researchers and clinicians have successfully employed our products to help achieve breakthroughs in the fields of genetic variation, cellular function and structural biology. We believe that the broad applicability of our IFC technology will lead to the development of IFC systems for a wide variety of additional markets and applications, including molecular diagnostics.

We were founded in 1999. In the first quarter of 2003, we introduced our first product line, the Topaz system for protein crystallization based on our first generation Topaz IFC. In subsequent years, we enhanced the capability of the Topaz system by introducing IFCs with increased throughput. Prior to 2007, Topaz system products accounted for substantially all of our product revenue. In the fourth quarter of 2006, we announced the commercial availability of our BioMark system. We currently sell two types of single-use IFCs for use with the BioMark system, the Dynamic Array for gene expression and genotyping and the Digital Array for digital PCR.

We have incurred significant losses since our inception, including net losses of $16.4 million, $23.6 million, $25.5 million and $6.6 million in 2005, 2006, 2007 and the three months ended March 29, 2008. As of March 29, 2008, we had an accumulated deficit of $140.4 million. We sell our IFC systems around the world. For 2007 and the three months ended March 29, 2008, customers in North America accounted for approximately 48% and 51% of our total revenue while European customers accounted for 10% and 11% and Asian customers accounted for 37% and 31%. We distribute our systems through our direct field sales and support organizations located in North America, Europe and Asia and through distributors or sales agents in several European countries. Our manufacturing operations are located in Singapore and South San Francisco. Our facility in Singapore fabricates all of our IFCs for commercial sale and some IFCs for our own research and development purposes and assembles certain elements of our BioMark and Topaz instrumentation. Our South San Francisco facility also assembles certain elements of our BioMark and Topaz instrumentation and fabricates IFCs for our own research and development purposes.

Since 2002, we have received significant revenue from research and development agreements and government grants. The most significant of these arrangements have been with entities associated with the government of Singapore that have helped support our establishment of manufacturing facilities in Singapore and our research and development activities there. Our grant agreements with the Singapore Economic Development Board, or EDB, provide that we are eligible to receive reimbursement from EDB for a portion of the expenses we incur in Singapore during the term of such agreements, including expenses relating to our local employees, equipment purchases, materials and software, professional service fees and costs. We submit reimbursement requests for qualifying

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expenditures on a quarterly basis. Reimbursement requests are subject to review by EDB. Our continued eligibility for such reimbursements is subject to our meeting targets for increasing levels of research, development and manufacturing activity in Singapore, including the use of local service providers, the hiring of personnel in Singapore, the incurrence of research and development expenses in Singapore, our receipt of new equity investment and our achievement of agreed-upon targets relating to new product development or completion of specific manufacturing process objectives. Together these agreements provide for funding eligibility through 2011, subject to our compliance with the requirements of the agreements. In addition, we have entered into collaboration and license arrangements with other parties that generally provide us with up-front and periodic milestone fees or fees based on agreed-upon rates for time incurred by our research staff.

Fiscal Year Presentation

During the year ended December 29, 2007, we adopted a 52 or 53 week year convention for our fiscal years and, therefore, our 2007 fiscal year ended on December 29, 2007 and the first three-month periods of 2007 and 2008 ended on March 31, 2007 and March 29, 2008. Future fiscal years will end on the last Saturday in December of each year. Prior to the adoption of this method, we reported our fiscal years on a calendar basis. The fiscal years discussed in this management s discussion and analysis of financial condition and results of operations ended on December 31, 2005, December 31, 2006 and December 29, 2007.

Critical Accounting Policies, Significant Judgments and Estimates

Our consolidated financial statements and the related notes included elsewhere in this prospectus are prepared in accordance with accounting principles generally accepted in the United States. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Changes in the accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ significantly from the estimates made by our management. We evaluate our estimates and assumptions on an ongoing basis. To the extent that there are material differences between these estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows will be affected.

We believe that the following critical accounting policies involve a greater degree of judgment and complexity than our other accounting policies. Accordingly, these are the policies we believe are the most critical to understanding and evaluating our consolidated financial condition and results of operations.

Revenue Recognition

We generate revenue from sales of our products and services, collaboration agreements and government grants. Our products consist of single-use IFCs, various instruments and software related to our BioMark and Topaz systems. Our services include system installation, training and customer support services. We also have entered into a number of research and development contracts and have received government grants to conduct research and development activities.

We record revenue in accordance with the guidelines established by the Securities and Exchange Commission, or SEC, Staff Accounting Bulletin No. 104, *Revenue Recognition*, or SAB 104. In addition, we have concluded that software included with certain of our instruments is essential to their functionality. We apply AICPA Statement of Position 97-2, *Software Revenue Recognition*, or SOP 97-2. If the arrangement includes IFCs, we use the separation criteria in EITF Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables,* to separate revenues related to IFCs, which are non-software related deliverables, from software related deliverables. Revenue is recognized when all

of the following criteria are met: persuasive evidence of an arrangement exists, delivery has occurred or services rendered, the price to the buyer is fixed or determinable and collectibility is reasonably assured. The evaluation of these revenue recognition criteria requires significant management judgment. For instance, we use judgment to assess collectibility based on factors such as the customer s creditworthiness and past collection history, if applicable. If we determine that collection of a payment is not reasonably assured, revenue recognition is deferred until the time collection becomes reasonably assured, which is generally upon receipt of payment. We also use

judgment to assess whether a price is fixed or determinable by reviewing contractual terms and conditions related to payment terms.

In 2007, and thereafter, no right of return existed for our products. In prior years, if an agreement included a right of return, the related revenue was deferred until the right had lapsed. Historically, we have not experienced any significant returns of our products. Also, accruals are provided for estimated warranty expenses at the time that the associated revenue is recognized. We use judgment to estimate these accruals and, if we were to experience an increase in warranty claims or if costs of servicing our products under warranty were greater than our estimates, our gross margins could be adversely affected in future periods.

Some of our sales contracts which include items such as our BioMark instrument systems or our Topaz readers involve the delivery or performance of multiple products and services within contractually binding arrangements. Significant contract interpretation is sometimes required to determine the appropriate accounting, including whether the deliverables specified in a multiple element arrangement should be treated as separate units of accounting for revenue recognition purposes, and, if so, how the price should be allocated among the elements, when to recognize revenue for each element, and the period over which revenue should be recognized. We use judgment to evaluate whether a delivered item has value on a stand-alone basis prior to delivery of the remaining items by determining whether we have made separate sales of such items or whether the undelivered items are essential to the functionality of the delivered items. Further, we use judgment to evaluate whether there is vendor-specific objective evidence, or VSOE, of fair value of the undelivered items, determined by reference to stand-alone sales of such items. We recognize revenue for delivered elements only when we determine that the fair values of undelivered elements are known. For a multiple element arrangement that includes both IFCs and instruments we separate these elements into separate units of accounting as we consider these elements to have standalone value to the customer. We recognize revenue for the IFCs under SAB 104 and the instruments under SAB 104 or SOP 97-2, as applicable. If the fair value of any undelivered item related to instruments and software included in a multiple element arrangement cannot be objectively determined, revenue will be deferred until all items are delivered, or until fair value can objectively be determined for any remaining undelivered items. However, if the only such undelivered element is post-contract customer support services, such as maintenance agreements, the entire revenue is recognized ratably over the service period. Recognition of revenue from these arrangements generally begins upon installation of the instruments as installation is deemed essential to the functionality of the instruments. The corresponding costs of products sold related to multiple element arrangements are also deferred and amortized over the same period.

Our deferred revenue balance increased by $1.6 million during 2007 and decreased by $0.1 million during the three months ended March 29, 2008. The increase during 2007 was primarily due to the increase in sales of our BioMark instrument systems, all of which included maintenance agreements. Although there was a slight decrease in deferred revenue during the three months ended March 29, 2008, we expect our deferred revenue balance to continue to increase until we are able to establish VSOE of the fair value of the post-contract customer support. We expect to establish VSOE for post-contract customer support as we enter into renewal agreements for maintenance with our customers upon the expiration of the initial agreements; however, we are not able to estimate when that will occur.

Changes in judgments and estimates regarding application of these revenue recognition guidelines as well as changes in facts and circumstances including the establishment of VSOE of fair value could result in a change in the timing or amount of revenue recognized in future periods.

Revenue from the sales of our products that are not part of a multiple element arrangement is recognized when no significant obligations remain undelivered and collection of the receivables is reasonably assured, which is generally upon shipment of the product and transfer of title to the customer.

We have entered into collaboration research and development arrangements that generally provide us with up-front and periodic milestone fees or fees based on agreed-upon rates for time incurred by our research staff. Revenue is recognized either ratably over the term of the agreement or as time is incurred on the project. Revenue from government grants is for reimbursement of research and development expenses and is recognized in the period in which the related costs are incurred, provided that the conditions under which the government grants are awarded have been substantially met and only perfunctory obligations remain outstanding.

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Stock-Based Compensation

Prior to January 1, 2006, we accounted for our stock options granted to employees using the intrinsic value method prescribed by Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees*, or APB 25, and related interpretations as permitted by Statement of Financial Accounting Standards, or SFAS No. 123, *Accounting for Stock-Based Compensation*, or SFAS 123, and SFAS No. 148, *Accounting for Stock-Based Compensation Transaction and Disclosure*, or SFAS 148. Accordingly, any compensation cost relating to stock options was recorded on the date of the grant in stockholders equity as deferred compensation and was thereafter amortized to expense over the vesting period of the grant, which was generally four years. We amortized deferred stock-based compensation using the multiple option method as prescribed by FASB Interpretation No. 28, *Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans*, or FIN 28, over the option vesting period using an accelerated amortization schedule.

Effective January 1, 2006, we adopted the fair value recognition provisions of SFAS No. 123 (revised 2004), *Share-Based Payment*, or SFAS 123(R), which requires companies to measure the cost of employee services received in exchange for an award of equity instruments, including stock options, based on the grant date fair value of the award. The fair value is estimated using the Black-Scholes option-pricing model. The resulting cost is recognized over the period during which an employee is required to provide service in exchange for the award, usually the vesting period.

We adopted SFAS 123(R) using the prospective-transition method as all prior grants were measured using the minimum value method for the pro forma disclosures previously required by SFAS 123. The prospective-transition method requires us to continue to apply APB 25 in future periods to equity awards outstanding at the date of our adoption of SFAS 123(R) on January 1, 2006. Under the prospective-transition method, any compensation costs that will be recognized from January 1, 2006 will include only: (a) compensation cost for all stock-based awards granted prior to, but not yet vested as of, December 31, 2005, based on the intrinsic value method in accordance with the provisions of ABP 25; and (b) compensation cost for all stock-based awards granted or modified subsequent to December 31, 2005, net of estimated forfeitures, based on the grant date fair value estimated in accordance with the provisions of SFAS 123(R). We amortize the fair value of stock-based compensation under SFAS 123(R) on a straight-line basis. In accordance with the prospective-transition method as prescribed under SFAS 123(R), results for prior periods are not restated.

We account for stock options issued to nonemployees in accordance with the provisions of SFAS 123(R) and EITF Issue No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services,* or EITF 96-18. In accordance with SFAS 123(R) and EITF 96-18, stock options issued to nonemployees are accounted for at their estimated fair value determined using the Black-Scholes option-pricing model. The fair value of the options granted to nonemployees is remeasured as they vest, and the resulting increase in value, if any, is recognized as expense during the period the related services are rendered.

We use the Black-Scholes option-pricing model to calculate the fair value of our options on the grant date. This model requires inputs such as expected term, expected volatility and risk-free interest rate. Further, the forfeiture rate also affects the amount of aggregate compensation. These inputs are subjective and generally require significant judgment.

Our expected volatility is derived from the historical volatilities of several unrelated public companies within the life science industry because we have little information on the volatility of the price of our common stock since we have no trading history. When making the selections of our industry peer companies to be used in the volatility calculation, we also considered the stage of development, size and financial leverage of potential comparable companies. Our historical volatility is weighted based on certain qualitative factors and combined to produce a single volatility factor. The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of grant for zero coupon

U.S. Treasury notes with maturities approximately equal to each grant s expected life. Given our limited history to accurately estimate the expected lives for the various employee groups, we used the simplified method as provided by Staff Accounting Bulletin No. 107, *Share Based Payment*. The simplified method is calculated as the average of the time-to-vesting and the contractual life of the options.

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Beginning on January 1, 2006 upon the adoption of SFAS 123(R), the fair value of each new option awarded was estimated on the grant date for the periods below using the Black-Scholes option-pricing model with the following weighted-average assumptions:

	2006	2007	Three Months Ended March 29, 2008
Expected volatility	72.8%	63.0%	54.7%
Expected life	6.1 years	6.0 years	5.9 years
Risk-free interest rate	4.8%	4.4%	3.0%
Dividend yield	0%	0%	0%

If in the future we determine that another method is more reasonable, or if another method for calculating these input assumptions is prescribed by authoritative guidance, and, therefore, should be used to estimate expected volatility or expected life, the fair value calculated for our stock options could change significantly. Higher volatility and longer expected lives result in an increase to stock-based compensation expense determined at the date of grant. Stock-based compensation expense affects our cost of revenue, sales and marketing expense, research and development expense, and general and administrative expense.

We estimate our forfeiture rate based on an analysis of our actual forfeitures and will continue to evaluate the appropriateness of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover behavior and other factors. Quarterly changes in the estimated forfeiture rate can have a significant effect on reported stock-based compensation expense, as the cumulative effect of adjusting the rate for all expense amortization is recognized in the period the forfeiture estimate is changed. If a revised forfeiture rate is higher than the previously estimated forfeiture rate, an adjustment is made that will result in a decrease to the stock-based compensation expense recognized in the consolidated financial statements. If a revised forfeiture rate is lower than the previously estimated forfeiture rate, an adjustment is made that will result in an increase to the stock-based compensation expense recognized in the consolidated financial statements. The effect of forfeiture adjustments during 2006, 2007 and the three months ended March 29, 2008 was insignificant. We will continue to use judgment in evaluating the expected term, volatility and forfeiture rate related to our own stock-based compensation on a prospective basis and incorporating these factors into the Black-Scholes option-pricing model.

Also required for the fair value calculation of the options is the fair value of the underlying common stock. We have historically granted stock options with exercise prices no less than the fair market value of our common stock as determined at the date of grant by our Board of Directors with input from management. The following table summarizes, by grant date, the number of stock options granted since January 1, 2007 and the associated per share exercise price, which equaled the fair value of our common stock for each of these grants.

Grant Date	Number of Options Granted	Exercise Price and Fair Value Per Share of Common Stock
May 8, 2007	1,613,500	$ 1.36
September 20, 2007	100,700	$ 1.38
December 28, 2007	328,000	$ 2.40
February 7, 2008	723,500	$ 2.40

Given the absence of an active market for our common stock prior to this offering, our Board of Directors determined the fair value of our common stock for our grants of stock options. Our Board of Directors determined the estimated fair value of our common stock based in part on an analysis of relevant metrics, including the following:

the prices of our convertible preferred stock sold to outside investors in arms-length transactions;

the rights, preferences and privileges of our convertible preferred stock relative to those of our common stock;

the rights of freestanding warrants and other similar instruments related to shares that are redeemable;

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- our operating and financial performance;
- the hiring of key personnel;
- the introduction of new products;
- our stage of development;
- the fact that the option grants involve illiquid securities in a private company;
- the risks inherent in the development and expansion of our products and services; and
- the likelihood of achieving a liquidity event, such as an initial public offering or sale of our company given prevailing market conditions.

From January 2007 through March 2008, our Board of Directors performed contemporaneous valuations of our common stock for each grant of stock options during this period.

The valuations were prepared using the market approach and the income approach to estimate our aggregate enterprise value at each valuation date. The market approach measures the value of a company through the analysis of recent sales of comparable companies. Consideration is given to the financial condition and operating performance of the company being valued relative to those of publicly traded companies operating in the same or similar lines of business. When choosing the comparable companies to be used for the market approach, we focused on companies in the life science industry. Some of the specific criteria used to select comparable companies within this industry include the business description, business size, projected growth, financial condition and historical earnings. The income approach measures the value of a company as the present value of its future economic benefits by applying an appropriate risk-adjusted discount rate to expected cash flows, based on forecasted revenue and costs. We prepared a financial forecast for each valuation report to be used in the computation of the enterprise value for both the market approach and the income approach. The financial forecasts took into account our past experience and future expectations. The risks associated with achieving these forecasts were assessed in selecting the appropriate discount rate. There is inherent uncertainty in these estimates.

In assessing the fair value of our common stock, our Board of Directors applied an equal weighting to the value indications presented by the income approach and market approach. In order to arrive at the estimated fair value of our common stock, the indicated enterprise value of our company calculated at each valuation date was allocated to the shares of convertible preferred stock and the warrants to purchase these shares, and shares of common stock and the options to purchase these shares using an option-pricing methodology. The option-pricing method treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company s securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceed the value of the liquidation preference at the time of a liquidity event, such as a strategic sale, merger or initial public offering, assuming the enterprise has funds available to make a liquidation preference meaningful and collectable by the holders of preferred stock. The common stock is modeled as a call option on the underlying equity value at a predetermined exercise price. In the model, the exercise price is based on a comparison with the total equity value rather than, as in the case of a regular call option, a comparison with a per share stock price. Thus, common stock is considered to be a call option with a claim on the enterprise at an exercise price equal to the remaining value immediately after the preferred stock is liquidated. The option-pricing method uses the Black-Scholes option-pricing model to price the call options. This model defines the securities fair values as functions of the current fair value of a

company and uses assumptions such as the anticipated timing of a potential liquidity event and the estimated volatility of the equity securities. The anticipated timing of a liquidity event utilized in these valuations was based on then-current plans and estimates of our Board of Directors and management regarding a liquidity event. Estimates of the volatility of our stock were based on available information on the volatility of capital stock of comparable publicly traded companies. This approach is consistent with the methods outlined in the AICPA Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Also, we considered the fact that our stockholders cannot freely trade our common stock in the public markets. Therefore, the estimated fair value of our common stock at each grant date reflected a non-marketability discount.

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There is inherent uncertainty in these estimates and if we had made different assumptions than those described above, the amount of our stock-based compensation expense, net loss and net loss per share amounts could have been significantly different.

Our Board of Directors performed a contemporaneous valuation in order to determine the fair value of our common stock for the grant of options on May 8, 2007 which indicated a fair value of $1.36 per share for our common stock. Our Board of Directors performed a second contemporaneous valuation in order to update the determination of the fair value of our common stock for the grant of options on September 20, 2007 which indicated a fair value of $1.38 per share for our common stock. The increase in the fair value between the contemporaneous valuation performed for the grant of options on May 8, 2007 and the date of this contemporaneous valuation was minimal, however, it relates mostly to a slight decrease in the non-marketability discount rate and the time to a liquidity event. Our Board of Directors performed another contemporaneous valuation in order to update the determination of the fair value of our common stock for the grant of options on December 28, 2007 which indicated a fair value of $2.40 per share for our common stock. The increase in the fair value between the contemporaneous valuation performed for the grant of options on September 20, 2007 and December 28, 2007 valuation relates mostly to the decrease in the non-marketability discount rate, the risk-adjusted discount and the time to a liquidity event.

We recorded stock-based compensation of $5,000, $0.1 million, $0.7 million and $0.2 million during 2005, 2006, 2007 and the three months ended March 29, 2008. Included in these amounts was employee stock-based compensation of $0, $0.1 million, $0.5 million and $0.2 million, and nonemployee stock-based compensation of $5,000, $59,000, $0.2 million and $50,000 during 2005, 2006, 2007 and the three months ended March 29, 2008. In future periods, stock-based compensation expense is expected to increase as a result of our existing unrecognized stock-based compensation and as we issue additional stock-based awards to continue to attract and retain employees and nonemployee directors. Additionally, SFAS 123(R) requires that we recognize compensation expense only for the portion of stock options that are expected to vest. If the actual rate of forfeitures differs from that estimated by management, we may be required to record adjustments to stock-based compensation expense in future periods. As of December 29, 2007 and March 29, 2008, we had $1.7 million and $2.5 million of unrecognized stock-based compensation costs related to stock options granted under our 1999 Stock Option Plan, which is expected to be recognized over an average period of 2.9 and 2.6 years.

Accounting for Income Taxes

Significant management judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance recorded against our net deferred tax assets. We have recorded a full valuation allowance on our net deferred tax assets as of December 31, 2006, December 29, 2007 and March 29, 2008 due to uncertainties related to our ability to utilize our deferred tax assets in the foreseeable future. These deferred tax assets primarily consist of certain net operating loss carryforwards and research and development tax credits.

We adopted FASB Interpretation No. 48, *Accounting for Uncertainties in Income Taxes an interpretation of FASB Statement No. 109*, or FIN 48, effective January 1, 2007. FIN 48 requires us to recognize the financial statement effects of a tax position when it is more likely than not, based on the technical merits, that the position will be sustained upon examination. Upon adoption, the Company recorded a charge of $75,000 as a cumulative effect of a change in accounting principle in the accumulated deficit during 2007.

Inventory Valuation

We record adjustments to inventory for potentially excess, obsolete or impaired goods in order to state inventory at net realizable value. The business environment in which we operate is subject to rapid changes in technology and customer demand. We regularly review inventory for excess and obsolete products and components, taking into

account product life cycle and development plans, product expiration and quality issues, historical experience and our current inventory levels. If actual market conditions are less favorable than anticipated, additional inventory adjustments could be required.

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Warrants to Purchase Convertible Preferred Stock

We account for freestanding warrants related to shares that are redeemable in accordance with FASB Staff Position No. 150-5, *Issuer s Accounting Under FASB Statement No. 150 for Freestanding Warrants and Other Similar Instruments on Shares That Are Redeemable*, or FSP 150-5, an interpretation of SFAS No. 150, *Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity*. Under FSP 150-5, freestanding warrants to purchase shares of our convertible preferred stock are classified as liabilities on the consolidated balance sheets at fair value because the warrants may conditionally obligate us to transfer assets at some point in the future. The warrants are subject to remeasurement at each balance sheet date, and any change in fair value will be recognized as a component of other income (expense), net in the consolidated statements of operations. We estimated the fair value of these warrants at the respective balance sheet dates using the Black-Scholes option-pricing model. A number of our assumptions used in the Black-Scholes option-pricing model, especially the market value and the expected volatility, are highly judgmental and could differ materially in the future.

We will continue to record adjustments to the fair value of the warrants until they are exercised, expire or, upon the closing of this offering, become warrants to purchase shares of our common stock, wherein the warrants will no longer be subject to FSP 150-5. At that time, the then-current aggregate fair value of these warrants will be reclassified from current liabilities to additional paid-in capital, a component of stockholders equity, and we will cease to record any related periodic fair value adjustments. Upon the closing of this offering, the preferred stock warrants will be converted into common stock warrants with the same exercise prices and expiration dates.

Results of Operations

Revenue

The following table presents our revenue by source for each period presented (in thousands).

				Three Months Ended	
	2005	2006	2007	March 31, 2007	March 29, 2008
Revenue:					
Product revenue	$ 6,076	$ 3,959	$ 4,451	$ 744	$ 1,917
Collaboration revenue	1,568	1,376	460	235	70
Grant revenue	30	1,063	2,364	589	527
Total revenue	$ 7,674	$ 6,398	$ 7,275	$ 1,568	$ 2,514

We generate revenue from sales of our products, collaboration agreements and government grants. Our products consist of single-use IFCs, various instruments, software and service related to our BioMark and Topaz systems. We also have entered into a number of research and development contracts and have received government grants to conduct research and development activities.

Total Revenue

Our total revenue increased $0.9 million, or 60%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007. Total revenue increased $0.9 million, or 14%, for 2007 as compared to 2006, and

decreased by $1.3 million, or 17%, for 2006 as compared to 2005. Total revenue from our five largest customers comprised 48%, 56%, 47% and 40% of revenue in 2005, 2006, 2007 and the three months ended March 29, 2008.

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As we expand our business through Europe and Asia, we expect our sales from outside of North America to increase as a percentage of our revenue. The following table presents our revenue by geography based on the billing address of our customers for each period presented (in thousands).

							Three Months Ended			
	2005		2006		2007		March 31, 2007		March 29, 2008	
United States	$ 5,557	72%	$ 3,807	60%	$ 3,492	48%	$ 672	43%	$ 1,278	51%
Singapore		0%	879	14%	1,972	27%	463	29%	470	19%
Japan	1,274	17%	1,492	23%	732	10%	91	6%	300	12%
Europe	545	7%	189	3%	735	10%	318	20%	289	11%
Other	298	4%	31	0%	344	5%	24	2%	177	7%
Total	$ 7,674	100%	$ 6,398	100%	$ 7,275	100%	$ 1,568	100%	$ 2,514	100%

Product Revenue

We derive product revenue from sales to biotechnology and pharmaceutical companies, academic institutions and life science laboratories worldwide. These sales are generally made through direct sales personnel to customers in North America, Asia and most of Europe and through distributors in parts of Europe and Asia.

Product revenue increased $1.2 million, or 158%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007. The increase relates mostly to the increase in sales of our BioMark instrument systems and related IFC s in the amount of $1.0 million, as we sold five BioMark instrument systems for the three months ended March 29, 2008 compared to one BioMark instrument system for the three months ended March 31, 2007. Topaz instrument systems and related IFC s increased $0.1 million for the three months ended March 29, 2008 compared to the three months ended March 31, 2007.

Product revenue for 2007 increased by $0.5 million, or 12%, compared to 2006. Revenues from our BioMark instrument systems and related IFCs which were introduced in late 2006 increased by $1.2 million, as we sold 14 BioMark instrument systems during 2007 compared to three BioMark instrument systems during 2006. This increase, however, was mostly offset by a decrease of $1.1 million related to a decrease in the sales of our Topaz IFCs. The unit sales of our Topaz instrument systems remained constant as we sold 10 Topaz instrument systems during both 2006 and 2007. In addition, our deferred revenue balance increased from $1.8 million at December 31, 2006 to $3.4 million at December 29, 2007 as we sold more BioMark instrument systems as part of multiple element arrangements for which we did not have VSOE on post-contract support. We recognized $1.0 million of the deferred revenue balance at December 31, 2006 during 2007. We expect the current portion of our deferred revenue balance as of December 29, 2007 in the amount of $2.6 million will be recognized as revenue during 2008. Product revenue for 2006 decreased by $2.1 million, or 35%, when compared to 2005. The decrease was primarily due to a decrease in the sales of our Topaz instrument systems as we sold 10 Topaz instrument systems during 2006 compared to 16 Topaz instrument systems during 2005; however, sales of our Topaz IFCs remained relatively consistent with 2005.

The increase in sales of our BioMark instrument systems in 2007 and the concurrent decrease in sales of our Topaz systems reflect the refocusing of our product development and sales and marketing efforts, beginning in 2005, to focus on the larger markets served by our BioMark instrument systems. Since then, we have reduced new Topaz product introductions. We will continue to manufacture and sell our Topaz instrument systems and IFCs and we expect unit sales of Topaz instrument systems and IFCs in 2008 and future periods to be consistent with or slightly lower than the

2006 and 2007 levels. We expect unit sales of our BioMark instrument systems and IFCs to increase in 2008.

Collaboration Revenue

We receive payments from third parties under research and development contracts. Fixed-fee research and development contracts generally provide us with up-front and periodic milestone-based fees. Variable-fee research and development contracts generally provide us with fees based on an agreed-upon rate for time incurred by our research staff.

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Collaboration revenue decreased $0.2 million, or 70%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007. The decrease relates to the completion of one of our development agreements in the first quarter of 2007. Collaboration revenue for 2007 decreased by $0.9 million, or 67%, compared to 2006. This decrease was primarily due to the completion of one of our collaboration agreements during 2006 that accounted for $1.0 million of our 2006 collaboration revenue. Collaboration revenue for 2006 decreased by $0.2 million, or 12%, compared to 2005. The decrease was primarily due to the termination of one of our collaboration agreements in December 2005. We expect collaboration revenue to continue to decrease as we complete our current collaboration agreements, most of which are likely to terminate during 2008.

Grant Revenue

We receive payments in the form of grants from certain government entities. Government grants are agreements that generally provide us reimbursement for specified research and development activities over a contractually defined period.

Grant revenue decreased $0.1 million, or 11%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007. The decrease relates to the reduction in activity for the National Institutes of Health, or NIH, grant agreement that will terminate in June 2008. Grant revenue for 2007 increased by $1.3 million, or 122%, when compared to 2006, and our grant revenue for 2006 increased by $1.0 million when compared to 2005. These increases were primarily due to the addition of a grant from the NIH, which was entered into in June 2006, and research grants from EDB, which were entered into in October 2005 and February 2007. We recognized revenue from the 2005 EDB research grant in the amount of $0.9 million during 2006 and $1.1 million during 2007. In addition, we recognized revenue in the amount of $0.6 million during 2007 from the 2007 EDB research grant. Also, we recognized revenue from the NIH grant in the amount of $0.2 million during 2006 and $0.6 million during 2007. Although the NIH grant is scheduled to terminate in June 2008, we expect grant revenue from the EDB research grants to increase in 2008 and remain at such levels through 2011, therefore, we expect our total grant revenue in 2008 through 2011 to be consistent with 2007 levels.

Our agreements with EDB provide that grants extended to us in the past and future grants are subject to our operation of increasing levels of research, development and manufacturing in Singapore, including the use of local service providers, the hiring of personnel in Singapore, the incurrence of research and development expenses in Singapore, our receipt of new investment in our company and our achievement of certain milestones relating to the development of our products. These agreements further provide EDB with the right to demand repayment of a portion past grants in the event that it concludes that we have not met our obligations under the applicable agreements. Based on correspondence with EDB, we believe we have satisfied the conditions applicable to our EDB grant revenue through March 29, 2008.

Cost of Product Revenue and Gross Margin

The following table presents our cost of revenue and gross margin for each period presented (in thousands).

				Three Months Ended	
	2005	2006	2007	March 31, 2007	March 29, 2008
Cost of product revenue	$ 4,764	$ 2,773	$ 3,514	$ 847	$ 1,294
Gross margin	22%	30%	21%	(14)%	32%

Cost of product revenue includes manufacturing costs incurred in the production process, including component materials, assembly labor and overhead, testing, installation, warranty, packaging and delivery costs. In addition, cost of product revenue includes royalty expenses for licensed technologies included in our products, provisions for warranties and stock-based compensation expense. Costs related to collaboration and government grant revenue are included in research and development expense.

Cost of product revenue increased $0.4 million, or 53%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007. The increase related to the increase of product revenue from both higher instrument and IFC sales. Cost of product revenue in the first three months of 2007 was adversely affected by

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start-up costs for our new Singapore manufacturing facility and underutilized capacity as we transitioned manufacturing from the United States to Singapore. Cost of product revenue for 2007 increased $0.7 million, or 27%, compared to 2006, primarily driven by higher instrument sales, start-up costs for our new Singapore manufacturing facility and underutilized capacity as we transitioned manufacturing from the United States to Singapore. Additionally we wrote-off obsolete raw materials in 2007 in the amount of $0.2 million, which decreased our gross margin by 5 percentage points. Cost of product revenue for 2006 decreased by $2.0 million, or 42%, when compared to 2005, primarily driven by a decrease in sales of our Topaz instruments during 2006. We expect our unit costs to decline in future periods as a result of our ongoing efforts to automate our manufacturing processes and expected increases in production volumes and yields. However, improvement in unit costs may be offset by increasing price competition, which could cause our gross margins to fluctuate from year-to-year and quarter-to-quarter.

Operating Expenses

The following table presents our operating expenses for each period presented (in thousands):

				Three Months Ended	
	2005	2006	2007	March 31, 2007	March 29, 2008
Operating expenses:					
Research and development	$ 11,449	$ 15,589	$ 14,389	$ 3,473	$ 3,280
Selling, general and administrative	7,955	9,699	12,898	2,758	4,463
Total operating expenses	$ 19,404	$ 25,288	$ 27,287	$ 6,231	$ 7,743

Research and Development

Research and development expense is the largest component of our operating expenses and consists primarily of personnel costs, independent contractor costs, prototype expenses and other allocated facilities and information technology expenses. We have made substantial investments in research and development since our inception. Our research and development efforts have focused primarily on the tasks required to optimize our technologies and to support commercialization of the products and services derived from these technologies.

Research and development expense decreased $0.2 million, or 6%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007. The decrease relates to a decrease of $0.3 million in supply expenses, a decrease of $0.2 million in license expenses offset by a $0.2 million increase in headcount costs due to increased research and development headcount. Research and development expense decreased in 2007 by $1.2 million, or 8%, compared to 2006, primarily due to decreased research and development license costs of $0.3 million, decreased supply costs of $0.3 million due to more efficient development activities and decreased compensation costs of $0.2 million due to a decrease in our average compensation rates. Research and development expense for 2006 increased by $4.1 million, or 36%, compared to 2005, primarily due to increased compensation costs of $2.1 million due mostly to a significant increase in research and development headcount and $0.1 million related to the adoption of SFAS 123(R) during 2006, $0.7 million attributable to increased contractor expenses, $0.6 million in increased licenses and royalties, and $0.3 million attributable to increased supply expenses. We believe that our continued investment in research and development is essential to a long-term competitive position and expect these expenses, including stock-based compensation, to increase in future periods.

Selling, General and Administrative

Selling, general and administrative expense consists primarily of personnel costs for our sales and marketing, business development, finance, legal, human resources and general management, as well as professional services, such as legal and accounting services.

Selling, general and administrative expense increased $1.7 million, or 62%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007. The increase relates to a $0.8 million increase for accounting and consulting services, a $0.4 million increase in compensation costs due to increased head count, a $0.1 million increase in advertising and promotions and a $0.1 million increase in facilities allocation. Selling,

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general and administrative expense for 2007 increased by $3.2 million, or 33%, compared to 2006, primarily due to increased compensation costs of $1.7 million due mostly to an increase in headcount and a $0.5 million increase in stock-based compensation over 2006, an increase of $1.4 million in spending primarily for accounting and legal services, $0.3 million resulting from increased advertising and promotions, and $0.2 million attributable to increased supplies for customer demonstrations. However, this increase was partially offset by a decrease of $0.4 million due to fewer patent filings. Selling, general administrative expense for 2006 increased by $1.7 million, or 22%, compared to 2005, primarily due to increased compensation costs of $1.1 million due to an increase in headcount, $0.4 million due to the filing of additional patents, $0.1 million from increased advertising and promotions, and $0.1 million attributable to increased supplies for customer demonstrations. We expect selling, general and administrative expense, including stock-based compensation, to significantly increase in 2008 and future periods as we continue to grow our sales, technical support, marketing and administrative headcount, support increased product sales, broaden our customer base and incur additional costs to support the growth in our business.

Interest Income and Expense

We receive interest income from our cash and cash equivalents and our available-for-sale security balances held with certain financial institutions. Conversely, we incur interest expense from our long-term debt and convertible promissory notes and the amortization of our debt discounts related to these items. The following table presents our interest income and expense for each period presented (in thousands).

				Three Months Ended	
	2005	2006	2007	March 31, 2007	March 29, 2008
Interest income	$ 340	$ 565	$ 1,140	$ 291	$ 400
Interest expense	(898)	(2,261)	(2,790)	(1,227)	(505)

Interest income increased $0.1 million, or 37%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007 due to higher average cash and available-for-sale securities balances. Interest income for 2007 increased by $0.6 million compared to 2006. The increase in interest income was due to higher cash and available-for-sale securities balances during 2007 as compared to 2006. Interest income for 2006 increased by $0.2 million compared to 2005. The increase in interest income was also primarily due to higher cash and available-for-sale securities balances during 2006 as compared to 2005. We expect interest income to increase as we invest a portion of the net proceeds from this offering in available-for-sale securities.

Interest expense decreased $0.7 million, or 59%, for the three months ended March 29, 2008 compared to the three months ended March 31, 2007 due to lower average debt balance due to conversion of the $10 million promissory notes in March 2007. Interest expense for 2007 increased by $0.5 million compared to 2006. The increase was primarily due to higher debt balances during 2007 as compared to 2006 primarily due to the $5.0 million convertible promissory note issued in March 2007. Interest expense for 2006 increased by $1.4 million compared to 2005. The increase was primarily due to higher debt balances from the $13.0 million Loan and Security agreement that was fully drawn by December 2005. We expect interest expense to increase if we draw on the $10.0 million credit line which is available up to July 1, 2008.

Cumulative Effect of Change in Accounting Principle

Upon adoption of FSP 150-5 on July 1, 2005, we reclassified the fair value of warrants to purchase shares of our convertible preferred stock from stockholders equity to liabilities and recorded a cumulative effect of a change in

accounting principle in the amount of $0.6 million during 2005 in the statement of operations.

Liquidity and Capital Resources

Sources of Liquidity

As of March 29, 2008, we had $29.2 million of cash and cash equivalents and $2.0 million of available-for-sale securities. As of March 29, 2008, our working capital was $29.9 million, and we had an accumulated deficit of $140.4 million. Since our inception, we have principally funded our operations through issuances of convertible

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preferred stock, which have provided us with aggregate net proceeds of $162.1 million. We have also received significant funding in the form of loans and convertible note purchase agreements that have provided us with aggregate net proceeds of $36.6 million, of which $20.0 million was provided by companies affiliated with EDB.

We have received funding in the form of grants from government entities, the most significant of which have been associated with two grant agreements with EDB that have helped support the establishment and operation of our Singapore manufacturing, research and development facilities in October 2005. As of March 29, 2008, we had received approximately $3.1 million from these grant agreements, from a possible total amount of approximately $9.9 million. In the event that we do not receive grant funding from EDB in the future, we do not believe that our liquidity would be materially affected.

We have entered into multiple convertible note purchase agreements with Biomedical Sciences Investment Fund Pte. Ltd., or BMSIF, an investment arm of EDB, pursuant to which we issued convertible notes and received proceeds in the amount of $20.0 million through March 29, 2008. As of March 29, 2008, the outstanding principal and accrued interest balance of our convertible note purchase agreements with BMSIF was $5.2 million, net of unamortized debt discounts of $0.4 million, all of which was converted into shares of our Series E preferred stock in April 2008.

In November 2002, we entered into a master security agreement with a lender under which we borrowed $3.6 million to be used for purchases of capital equipment, software and tenant improvements. The outstanding principal and accrued interest balance for this loan was paid in February 2008. Upon full payment of the debt in February 2008, restricted cash in the amount of $0.5 million was released by the lender.

In March 2005, we entered into a loan and security agreement with a lender under which we borrowed $13.0 million to be used for general corporate purposes. We are currently making equal monthly payments of $0.3 million towards the loan which is to be paid off in February 2010. The loan is subject to prepayment penalties if paid off prior to 2010. As of March 29, 2008, the outstanding principal and accrued interest balance for this loan and security agreement was $7.6 million, net of unamortized debt discounts of $25,000. In February 2008, this loan and security agreement was amended to provide us with an additional credit line in the amount of $10.0 million that we can draw upon until July 1, 2008 for general corporate purposes. Amounts drawn down under this additional line of credit plus accrued interest will be repaid in installments through June 2011 and outstanding amounts will accrue interest at the rate of 11.5% per year. As of March 29, 2008, we had not drawn down any amounts on the additional line of credit.

The loan and security agreement contains customary covenants that, among other things, require us to deliver both annual audited and periodic unaudited financial statements by specified dates and maintain collateral on company premises and restrict our ability, without the consent of the lender, to incur additional debt, pay dividends or make certain other distributions, or payments in respect of our capital stock, engage in transactions with affiliates or engage in the sale, lease or license of our assets outside of the ordinary course of business. As of March 29, 2008, we were in compliance with the above covenants with the exception of the timely delivery of our audited financial statements for 2007. In this instance, we obtained a waiver from the lender and subsequently complied with the covenant. We are currently unaware of any circumstances that would prevent us from complying with these covenants in the future.

Net Cash Used in Operating Activities

We derive cash flows from operations primarily from cash collected from the sale of our products and related services, collaboration agreements and grants from certain government entities. Our cash flows from operating activities are also significantly influenced by our use of cash for operating expenses to support the growth of our business. We have historically experienced negative cash flows from operating activities as we have expanded our business and built our infrastructure domestically and internationally and we expect this trend to continue for the foreseeable future as our business grows and we continue to expand into new markets.

Net cash used by operating activities was $7.8 million for the three months ended March 29, 2008. Net cash used by operating activities primarily consisted of a net loss of $6.6 million, changes in our working capital amounts in the amount of $1.8 million and foreign exchange gain in the amount of $0.3 million, which were partially offset

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by non-cash expense items such as depreciation and amortization of our property and equipment in the amount of $0.4 million, adjustments to the fair value of convertible preferred stock warrants in the amount of $0.3 million, and stock-based compensation in the amount of $0.2 million.

Net cash used by operating activities was $21.8 million during 2007. Net cash used by operating activities primarily consisted of a net loss of $25.5 million, which was partially offset by non-cash expense items such as depreciation and amortization of our property and equipment in the amount of $1.6 million, amortization of debt discounts in the amount of $0.5 million, stock-based compensation in the amount of $0.7 million, and changes in our working capital accounts in the amount of $0.5 million.

Net cash used by operating activities was $22.3 million during 2006. Net cash used by operating activities primarily consisted of a net loss of $23.6 million and changes in our working capital accounts in the amount of $1.2 million. The cash used by operating activities for these items was partially offset by non-cash expense items such as depreciation and amortization of our property and equipment in the amount of $1.4 million, amortization of our debt discounts in the amount of $0.1 million, stock-based compensation in the amount of $0.1 million, and the issuance of convertible preferred stock under a license agreement in the amount of $0.6 million.

Net cash used by operating activities was $14.3 million during 2005. Net cash used by operating activities primarily consisted of a net loss of $16.4 million. The cash used by operating activities was partially offset by non-cash expense items such as depreciation and amortization of our property and equipment in the amount of $1.3 million and increases in our working capital accounts in the amount of $1.4 million.

Net Cash Used in Investing Activities

Historically, our primary investing activities have consisted of capital expenditures for laboratory, manufacturing and computer equipment and software to support our expanding infrastructure and work force; restricted cash related to leased space and lending agreements; and purchases, sales and maturities of our available-for-sale securities. We expect to continue to expand our manufacturing capability, primarily in Singapore, and expect to incur additional costs for capital expenditures related to these efforts in 2008.

We generated $4.7 million of cash in investing activities for the three months ended March 29, 2008 primarily from maturities of available-for-sale securities in the amount of $3.0 million, sales of available-for-sale securities in the amount of $2.3 million and a reduction of restricted cash of $0.5 million, partially offset by purchases of available-for-sale securities in the amount of $1.0 million and purchases of capital equipment of $0.1 million.

We used $6.7 million of cash in investing activities during 2007, primarily for purchases of available-for-sale securities in the amount of $6.3 million and $1.0 million for capital expenditures related to purchases of equipment, including $0.4 million for our Singapore manufacturing facility, partially offset by maturities of available-for-sale securities in the amount of $0.5 million.

We used $2.9 million of cash in investing activities during 2006, primarily for capital expenditures in the amount of $2.9 million related to purchases of equipment, including $1.3 million for our Singapore manufacturing facility.

During 2005, investing activities provided cash of $6.8 million. This cash was generated primarily from sales and maturities of available-for-sale securities in the amount of $8.9 million, partially offset by purchases of available-for-sale securities in the amount of $0.5 million and capital expenditures in the amount of $1.7 million. Our capital expenditures during 2005 consisted of $1.0 million related to purchases of manufacturing equipment for our Singapore facility, which began operations during the year.

Net Cash Provided by Financing Activities

Historically, we have principally funded our operations through issuances of convertible preferred stock.

During the three months ended March 29, 2008, we used $1.8 million of cash from financing activities primarily due to repayment of long-term debt. During 2007, we generated $37.6 million of cash from financing activities primarily due to $35.9 million of net proceeds from sales of our Series E preferred stock and $5.0 million of proceeds from the issuance of convertible promissory notes, partially offset by repayments of our long-term debt

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in the amount of $3.5 million. During 2006, we generated approximately $31.1 million of cash from financing activities primarily due to $22.0 million of net proceeds from sales of our Series E preferred stock and $13.0 million of proceeds from the issuance of convertible promissory notes, partially offset by repayments of our long-term debt in the amount of $4.0 million. During 2005, we generated approximately $23.0 million of cash from financing activities, primarily due to $10.0 million of net proceeds from sales of our Series D preferred stock and $14.7 million of net proceeds from the issuance of long-term debt, partially offset by repayments of our long-term debt in the amount of $1.7 million.

Capital Resources

We believe our existing cash and cash equivalents, available-for-sale securities, amounts available under current credit lines and the net proceeds from this offering, will be sufficient to meet our working capital and capital expenditure needs for at least the next 18 months. However, we may need to raise substantial additional capital to expand the commercialization of our products, fund our operations, continue our research and development, defend, in litigation or otherwise, any claims that we infringe third-party patents or violate other intellectual property rights, commercialize new products and acquire companies and in-license products or intellectual property. Our future funding requirements will depend on many factors, including market acceptance of our products, the cost of our research and development activities, the cost of filing and prosecuting patent applications, the cost of defending, in litigation or otherwise, any claims that we infringe third-party patents or violate other intellectual property rights, the cost and timing of regulatory clearances or approvals, if any, the cost and timing of establishing additional sales, marketing and distribution capabilities, the cost and timing of establishing additional technical support capabilities, the effect of competing technological and market developments, and the extent to which we acquire or invest in businesses, products and technologies, although we currently have no commitments or agreements relating to any of these types of transactions. We currently expect to use the proceeds from this offering to expand our sales force, to support the ongoing commercialization of our products, for research and product development activities, to expand our facilities and manufacturing operations, and for working capital and other general corporate purposes. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the proceeds from this offering or the amounts that we will actually spend on the uses set forth above.

We may require additional funds in the future and we may not be able to obtain such funds on acceptable terms, or at all. If we raise additional funds by issuing equity securities, our stockholders may experience dilution. Debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any debt or additional equity financing that we raise may contain terms that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish some rights to our technologies or our products, or grant licenses on terms that are not favorable to us. If we are unable to raise adequate funds, we may have to liquidate some or all of our assets, or delay, reduce the scope of or eliminate some or all of our development programs. If we do not have, or are not able to obtain, sufficient funds, we may have to delay development or commercialization of our products or license to third parties the rights to commercialize products or technologies that we would otherwise seek to commercialize. We also may have to reduce marketing, customer support or other resources devoted to our products or cease operations. Any of these factors could harm our operating results.

Off-Balance Sheet Arrangements

Since our inception, we have not had any off-balance sheet arrangements as defined in Item 303(a)(4) of the Securities and Exchange Commission s Regulation S-K.

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Contractual Obligations and Commitments

The following summarizes our contractual obligations as of December 29, 2007 (in thousands):

	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	Thereafter
Operating lease obligations	$ 4,459	$ 1,436	$ 2,782	$ 241	$
Long-term debt	10,908	4,478	6,430		
Convertible promissory notes	5,278		5,278		
Purchase obligations	1,015	435	580		
Total	$ 21,660	$ 6,349	$ 15,070	$ 241	$

Our operating lease obligations relate to leases for our current headquarters and leases for office space for our foreign subsidiaries. Principal and interest on our convertible promissory notes are convertible into shares of our Series E preferred stock at the lender s election, at any time, or upon our election upon the achievement of certain milestones or automatically upon the completion of this offering. Purchase obligations consist of contractual and legally binding commitments to purchase goods. We have entered into several patent license agreements in which we are obligated to pay annual license maintenance fees, non-refundable license issuance fees and royalties as a percentage of sales for the sale or sublicense of products using the licensed technology.

We have entered into several license and patent agreements. Under these agreements, we pay annual license maintenance fees, nonrefundable license issuance fees, and royalties as a percentage of net sales for the sale or sublicense of products using the licensed technology. If we elect to maintain these license agreements, we will pay aggregate annual fees of $315,000 in 2008 and $270,000 per year until 2027. Future payments related to these license agreements have not been included in the contractual obligations table above as the period of time over which the future license payments will be required to be made, and the amount of such payments are indeterminable.

On March 7, 2003 we entered into a Master Closing Agreement with Oculus Pharmaceuticals, Inc. and the UAB Research Foundation, or UAB, related to certain intellectual property and technology rights licensed by us from UAB. Pursuant to the agreement, we are obligated to issue UAB shares of our common stock with a value equal to $1,500,000 upon the achievement of a certain milestone and based upon the fair market value of our common stock at the time the milestone is achieved. We currently do not anticipate achieving this milestone in the foreseeable future and do not anticipate issuing these shares.

Our manufacturing operations in Singapore, which commenced in October 2005, have been supported by grants from EDB, which provide partial reimbursement of qualifying costs arising from research and development projects relating to our manufacturing process. To remain eligible for future reimbursement, we are required to maintain a significant and increasing manufacturing and research and development presence in Singapore. Under our current grant agreements with EDB, we expect our spending related to these grant agreements to increase in order to maintain our manufacturing facility in Singapore. Future expenditures related to these grant agreements have not been included in the contractual obligations table above as the amounts of future expenditures, if any, and the timing of when they will be incurred are still indeterminable.

Subsequent to our year ended December 29, 2007, the remaining outstanding principal and accrued interest balance for a master security agreement in the amount of $1.1 million was paid in February 2008. The loan was originally scheduled to be repaid in monthly installments though July 2009 and, accordingly, was reflected in the table above as such. Also, the convertible promissory notes noted in the table above were converted into shares of our Series E preferred stock during April 2008 in accordance with the convertible note purchase agreements with BMSIF.

Recent Accounting Pronouncements

In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurement*, or SFAS 157, which defines and establishes a framework for measuring the fair value of assets and liabilities when required or permitted by other

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standards within generally accepted accounting principles in the United States but does not require any new fair value measurements. SFAS 157 also expands disclosures about fair value measurements. SFAS 157 is effective for all financial statements issued for fiscal years beginning after November 15, 2007. However, in February 2008 the FASB issued FSP No. 157-2, or FSP 157-2 which delays the effective date of SFAS 157 in accordance with the provisions in FSP 157-2 as of January 1, 2008. The adoption of SFAS 157 did not have a significant impact on our consolidated financial statements and the resulting fair values calculated in accordance with SFAS 157 were not significantly different than the fair values that would have been calculated in accordance with the previous guidance.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities*, or SFAS 159, including an amendment of SFAS No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, which allows an entity to choose to measure certain financial instruments and liabilities at fair value. Subsequent measurements for the financial instruments and liabilities an entity elects to measure at fair value will be recognized in earnings. SFAS 159 also establishes additional disclosure requirements. SFAS 159 is effective for fiscal years beginning after November 15, 2007. The adoption of SFAS 159 did not have a significant impact on our consolidated financial statements.

In December 2007, the FASB ratified EITF Issue No. 07-1, *Accounting for Collaborative Agreements*, or EITF 07-1, which addresses the accounting for participants in collaborative agreements, defined as contractual arrangements that involve a joint operating activity, that are conducted without the creation of a separate legal entity. EITF 07-1 requires participants in a collaborative agreement to make separate disclosures for each period a statement of operations is presented regarding the nature and purpose of the agreement, the rights and obligations under the agreement, the accounting policy for the agreement, and the classification of and amounts arising from the agreement between participants. These arrangements involve two or more parties who are both active participants in the activity and that are exposed to significant risks and rewards dependent on the commercial success of the activity. EITF 07-1 provides that a company should report the effects of adoption as a change in accounting principle through retrospective application to all periods and requires specific additional disclosures. EITF 07-1 is effective for interim and annual reporting periods beginning after December 15, 2008. We are currently assessing the impact the adoption of EITF 07-1 will have on our consolidated financial statements.

In June 2007, the FASB ratified EITF Issue No. 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services to Be Used in Future Research and Development Activities*, or EITF 07-3. EITF 07-3 provides clarification surrounding the accounting for nonrefundable research and development advance payments, whereby such payments should be recorded as an asset when the advance payment is made and recognized as an expense when the research and development activities are performed. EITF 07-3 is effective for interim and annual reporting periods beginning after December 15, 2007. We adopted EITF 07-3 as of December 30, 2007. The adoption of EITF 07-3 did not have a significant impact on our consolidated financial statements.

Quantitative and Qualitative Disclosures about Market Risk

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in foreign currency exchange rates and interest rates. We do not hold or issue financial instruments for trading purposes.

Foreign Currency Exchange Risk

As we expand internationally our results of operations and cash flows will become increasingly subject to fluctuations due to changes in foreign currency exchange rates. Our revenue is generally denominated in the local currency of the contracting party. Historically, the substantial majority of our revenue has been denominated in U.S. dollars. Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the

United States, with a portion of expenses incurred in Singapore where our other manufacturing facility is located. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates. Fluctuations in currency exchange rates could harm our business in the future. However, the effect of a 10% adverse change in exchange rates on foreign denominated receivables and payables as

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of December 31, 2006, December 29, 2007 and March 29, 2008 would not have been material. To date, we have not entered into any foreign currency hedging contracts although we may do so in the future.

Interest Rate Sensitivity

We had cash and cash equivalents of $25.0 million, $34.1 million and $29.2 million and available-for-sale securities of $0.5 million, $6.3 million and $2.0 million as of December 31, 2006, December 29, 2007 and March 29, 2008. These amounts were held primarily in cash on deposit with banks, money market funds, commercial paper, corporate notes or notes from government-sponsored agencies, which are short-term. Cash and cash equivalents and available-for-sale securities are held for working capital purposes and restricted cash amounts are held as letters of credit for collateral for a security agreement with a lender and for our facility lease agreements. Due to the short-term nature of these investments, we believe that we do not have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates. Declines in interest rates, however, will reduce future investment income. If overall interest rates had decreased by 10% during 2007 or the three months ended March 29, 2008, our interest income would not have been materially affected.

As of December 31, 2006, December 29, 2007 and March 29, 2008, the principal amount of our long-term debt outstanding was $12.8 million, $9.4 million $7.6 million and the principal amount of our convertible promissory notes outstanding was $13.1 million, $5.0 million and $5.2 million. The interest rates on our long-term debt and convertible promissory notes are largely fixed, however, a small portion of our long-term debt outstanding has interest rates that are variable and adjust periodically based on the prime rate. If overall interest rates had increased by 10% during 2007 or the three months ended March 29, 2008, our interest expense would not have been materially affected.

Fair Value of Financial Instruments

We do not have material exposure to market risk with respect to investments as our investments consist primarily of highly liquid securities that approximate their fair values due to their short period of time to maturity. We do not use derivative financial instruments for speculative or trading purposes, however, we may adopt specific hedging strategies in the future.

Controls and Procedures

In January 2008, in connection with the audit of our consolidated financial statements for 2005 and 2006, we determined that we had material weaknesses relating to our financial statement close and accrual process and revenue recognition and inventory costing, cost of sales, purchases cut-off and stock-based compensation. A material weakness is defined as a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company s annual or interim financial statements will not be prevented or detected on a timely basis by the company s internal controls. These material weaknesses were as follows:

- we did not have a sufficient number of personnel in the accounting and finance department with sufficient proficiency and technical accounting expertise;

- we did not have effective controls in place or designed to evaluate the accounting implications of our business transactions during 2005 and 2006 and to determine if such matters had been properly accounted for in a timely manner; and

- we had not designed or maintained effective operating controls over the financial statement close and reporting process in order to ensure the accurate and timely preparation of our financial statements in accordance with

generally accepted accounting principles.

These material weaknesses resulted in the recording of numerous audit adjustments for 2005 and 2006. We have taken steps intended to remediate these material weaknesses through:

the hiring of additional accounting and finance personnel with technical accounting and financial reporting experience, including Vikram Jog, our new Chief Financial Officer, who joined us in February 2008;

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- the engagement of a consulting firm to provide further accounting expertise to complement the skills of our existing team;

- the engagement of an accounting firm to advise us on local and international tax planning and compliance;

- the hiring of an experienced finance manager for Fluidigm Singapore Pte. Ltd., who is expected to start in May 2008;

- increased scheduled communication and coordination among our finance teams in the United States and our foreign subsidiaries;

- enhanced coordination among, and training of, accounting, sales, technical support and legal personnel on transactional issues;

- enhancements to our financial statement close process and financial close calendar to help enable processes and procedures to be completed on a timely basis; and

- installation of common accounting software and systems in our U.S. and Singapore offices.

In April and May 2008, following the audit of our consolidated financial statements for 2007 and the review of our financial statements for the three months ended March 29, 2008, we reviewed our internal control over financial reporting and concluded that we had certain significant deficiencies, none of which were determined to be material weaknesses. A significant deficiency is defined as a deficiency, or combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those responsible for oversight of a company s financial reporting. These significant deficiencies were as follows:

- we did not have sufficient controls in place to review consolidation and elimination entries relating to intercompany transfer pricing to detect and eliminate intercompany profits embedded in deferred costs of our Japanese subsidiary;

- we did not have effective controls in place designed to apply SFAS 123R to option grants with a variety of vesting terms and to validate stock compensation expenses calculated by our option tracking software; and

- we did not have sufficient controls in place to review the valuation of our inventory.

We do not know the specific time frame needed to remediate the significant deficiencies identified. In addition, we expect to incur some incremental costs associated with this remediation. If we fail to enhance our internal control over financial reporting to meet the demands that will be placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act, we may be unable to report our financial results accurately. The actions we plan to take are subject to continued management review supported by confirmation and testing, as well as audit committee oversight. While we expect to remediate these significant deficiencies, we cannot assure you that we will be able to do so in a timely manner, which could impair our ability to report our financial position, results of operations or cash flows accurately and timely.

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BUSINESS

Overview

We develop, manufacture and market proprietary Integrated Fluidic Circuit systems that significantly improve productivity in the life science industry. Our Integrated Fluidic Circuits, or IFCs, integrate a diverse set of critical liquid handling functions on a nanoliter scale. Our IFCs can meter, combine, diffuse, fold, mix, separate or pump nanoliter volumes of fluids, with precise control and reproducibility, many thousands of times all in parallel on a single chip. This technology enables our customers to perform thousands of sophisticated biochemical measurements on samples smaller than the content of a single cell, with minute volumes of reagents, in half the area of a credit card. We achieved this integrated circuit for biology by miniaturizing and integrating liquid handling components on a single microfabricated device. Through innovations in material science and manufacturing, our IFC architectures are highly flexible, and can be designed to support a wide range of applications and assay types. For large-scale experimentation, our IFC systems, consisting of instrumentation, software and single-use IFCs, increase throughput, decrease costs and enhance sensitivity compared to conventional laboratory systems. We have sold our IFCs to over 100 customers, including many leading biotechnology and pharmaceutical companies, academic institutions and life science laboratories worldwide.

We have commercialized IFC systems for a wide range of life science applications, including our BioMark system for gene expression analysis, genotyping and digital PCR, and our Topaz system for protein crystallization. Researchers and clinicians have successfully employed our products in achieving breakthroughs across diverse scientific disciplines such as genetic variation, cellular function and structural biology. These advances include using our systems to help detect life-threatening mutations in patients cancer cells, discover indicators of susceptibility to cancer, manage some of the world s most valuable fisheries, analyze the genetic composition of individual stem cells, identify fetal chromosomal abnormalities from maternal blood samples, analyze the aggressiveness of the avian flu virus and assess the quality of agricultural seed products. We believe that the flexible architecture of our IFC technology will lead to the development of IFC systems for a wide variety of additional markets and applications, including molecular diagnostics.

Schematic of our 96.96 Dynamic Array IFC including an
enlarged section showing four of the IFC s 9,216 test chambers.

The life science industry is currently facing challenges similar to those faced by the information technology industry when computational power was constrained by the inherent limitations of the vacuum tube. Life science research efforts, ranging from large-scale initiatives, such as the Human Genome Project, to more traditional academic and commercial research projects, are continuing to reveal the complex biological and chemical processes that are fundamental to living organisms. Automated, high-precision and large-scale experimentation is increasingly necessary to develop and apply this knowledge. However, the most common forms of life science automation rely on cumbersome robotic systems that are slow, expensive and labor-intensive and, we believe,

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fundamentally constrain the pace and productivity of life science research. In much the same way that integrated circuits overcame the limitations of early computers by placing an increasing number of transistors on a single silicon chip, our IFCs overcome many of the limitations of conventional laboratory systems by integrating an increasing number of fluidic components on a single microfabricated IFC.

We believe that much of analytical biology and chemistry can be performed more efficiently and more economically in nanoliter, or one billionth of a liter, volumes than in conventional microliter volume platforms. Moreover, we believe that these advantages can be further enhanced through high levels of integration. Our IFC systems overcome many of the limitations of conventional methods by integrating on a single device the ability to perform thousands of experiments at one time and in nanoliter volumes. Our IFCs consist of an elastomeric, or rubber-like, core bonded to a specialized hard plastic input frame. The input frame is compatible with standard laboratory workflow equipment and facilitates loading the IFC with samples and reagents. Each IFC contains an extensive network of microfluidic components, such as valves, channels, pumps, mixers and other components that deliver samples and reagents to thousands of nanoliter chambers across the IFC where individual tests can be performed. This high level of nanofluidic integration significantly reduces the time and complexity of large-scale experimentation and the volume of costly reagents and scarce patient samples required. In addition, our IFC systems enable users to address problems that would be difficult or impractical to solve using conventional life science tools. We believe that our ongoing research efforts to increase the density and degree of miniaturization of our IFCs will result in further such benefits to our customers.

Our Target Markets

Biotechnology and pharmaceutical companies, academic institutions and life science laboratories collectively spent approximately $35 billion in 2007 for analytical and life science instruments, according to Strategic Directions International, or SDI. Growth in the life science equipment and supplies industry has been driven in part by increased demand for tools that allow researchers to discover how fundamental functional elements of biology such as nucleic acids, proteins, carbohydrates and cells interact within living organisms. This research often entails analyzing or identifying numerous such elements across large sample populations. Conducting and commercializing this research requires equipment that reliably performs experimentation with precision, on a large scale and at an affordable cost. The need for equipment with these capabilities is particularly evident in the areas of genomics, proteomics and molecular diagnostics, which comprise our initial target markets.

Genomics

Genomics is the analysis of nucleic acids, including DNA and RNA, the fundamental building blocks of life. The entire DNA content of an organism is known as its genome and is commonly organized into functional units known as genes. Analysis of variations in genomes, genes and gene activity in and between organisms can provide tremendous insight into its health and functioning. The worldwide demand for genomic analysis instruments and supplies was approximately $4.9 billion in 2005, according to SDI. Of this total, SDI estimated that 56%, or about $2.7 billion, was spent on gene expression analysis, and 20%, or about $1.0 billion, was spent on genotyping. In a 2006 report, SDI projected that the markets for gene expression analysis and genotyping would grow approximately 8% per year from 2005 to 2010.

Gene expression and genotyping today are studied through a combination of various technology platforms that characterize gene function and genetic variation. Gene expression and genotyping are commonly performed using a technique known as polymerase chain reaction, or PCR, and often with a chemistry branded as TaqMan, which is proprietary to Roche Molecular Systems, Inc. and is widely used in the industry. The PCR method is used to replicate a strand of DNA or RNA into millions of copies to facilitate detection in a sample. Real-time quantitative PCR, or real-time qPCR, is a more advanced form of PCR that makes it possible to identify the number of copies of DNA

present in a sample at a certain time. According to Frost and Sullivan, the U.S. market for real-time qPCR was approximately $741 million in 2007, growing at approximately 11% per year from 2005 to 2012. Based on our estimates, we believe the global market for real-time qPCR was approximately $1.7 billion in 2007. Gene expression, genotyping and digital PCR are three powerful forms of genomic analysis.

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Gene Expression Analysis. One of the ways genes control cellular activity is through a process known as gene expression, when a cell transcribes a section of a gene s DNA to create another nucleic acid sequence, known as messenger RNA. This messenger RNA may then be translated by the cell into a protein. Messenger RNA can be detected and quantified by performing real-time qPCR tests, or assays. Gene expression analysis typically entails determining which genes are active by measuring messenger RNA levels in a blood or tissue sample. These results can be correlated with disease activity and clinical outcomes. As multiple genes are involved in most biological processes, gene expression analysis usually requires assaying the expression levels of many genes simultaneously across many samples. We estimate that approximately 80% of the market for real-time qPCR involves gene expression analysis.

Genotyping. Genotyping involves the analysis of variations across individual genomes. These variations often take the form of single nucleotide changes, known as single nucleotide polymorphisms, or SNPs, that can determine the characteristics or health of the individual. In SNP genotyping studies, the DNA sequences of a group of individuals are analyzed to determine patterns of SNPs. Statistical analysis is then performed to determine whether a SNP or group of SNPs can be associated with a particular characteristic, such as propensity for a disease. We estimate that approximately 20% of the market for real-time qPCR involves genotyping analysis. We believe this percentage share of the real-time qPCR market is growing based on technological innovations allowing increasing amounts of genetic content to be analyzed more quickly and cost effectively.

Digital PCR. Digital PCR is a technique that allows researchers to detect nucleic acid sequences that are present in a patient sample in concentrations that are too low to be detected by conventional methods. Digital PCR typically relies on standard PCR techniques, but increases their sensitivity by dividing a sample into hundreds or thousands of smaller samples and performing a PCR assay on each such sample. The ability to actually count the presence or absence of amplification in this assay format provides quantitative measurement capabilities known as absolute quantification. Digital PCR has the potential to enable early detection of diseases and other conditions, thereby improving prospects for effective treatment. In addition, this technique enhances the precision of single molecule assays and copy number variation. While the digital PCR market is currently nascent, we believe it has the potential to grow significantly as researchers learn how to apply this technique to a broader range of research applications and associated diseases.

Proteomics

Proteomics is the large-scale study of the function and structure of proteins. Proteins are produced by all living organisms and directly affect cellular function, the overall health of an organism and, in the case of pathogens, how the organism interacts with its host. Developing drugs to treat a disease often involves identifying molecules that are able to interfere with the activity of a particular protein in the pathway for that disease. One approach to finding such molecules is to first determine the structure of the protein and then look for molecules that bind to the structure and interfere with the activity of the protein. A technique known as protein crystallization is typically used to determine protein structures. Crystallizing a protein can be a time-consuming and labor-intensive process because different proteins will crystallize in the presence of different reagents and under different conditions. As samples of particular proteins are often scarce and expensive, researchers usually conduct only a limited number of experiments, none of which might provide a crystallized protein.

Molecular Diagnostics

Molecular diagnostic tests are used in clinical practice to diagnose, classify or monitor a disease; determine a patient s susceptibility to a disease; or monitor a patient s response to therapy by detecting one or more biomarkers, such as nucleic acids or proteins, in a blood, tissue or other type of patient sample. The advancement of molecular diagnostics

is being driven by researchers performing large-scale experiments analyzing the prevalence of SNPs, variations in gene expression levels and patterns of protein production. SNPs, gene expression levels and proteins often directly cause or control diseases. Molecular diagnostic tests based on measuring these biomarkers have the potential to be much more accurate, discriminating and robust than conventional diagnostics. According to Frost and Sullivan, the U.S. market for molecular diagnostics was estimated at $2.0 billion in 2007, growing at a compound annual growth rate of 17% from 2005 to 2012.

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The Limitations of Existing Laboratory Systems

Scientists increasingly seek to identify and measure a large number of characteristics across large populations. The most common existing methods of large-scale experimentation require a workflow that is complex, labor-intensive and expensive. In this workflow, biological samples and chemical compounds, usually in solution, are generally dispensed or pipetted into standard microwell plates, which usually consist of 96 or 384 wells each in a standardized format. The plates may then be moved to another station where reagents can be applied to the sample or compound to create a single assay in each microwell. The microwell plates may be moved again to attain ideal reaction temperatures or other conditions. The plates are then generally moved into a reader to detect the results of the experiment in each well. This process of dispensing materials and conveying the plates may include robotically performed steps but generally also requires a significant manual labor component. To accomplish these steps on a large scale typically requires the use of large laboratories equipped with many types of equipment, robotics, conveyor systems and personnel.

Conventional microwell plate workflows have a number of characteristics that inherently limit their effectiveness as tools for large scale experimentation:

Complex Workflow. Pipetting stations may have to perform hundreds of thousands of pipetting steps using hundreds of microwell plates in order to conduct a single set of experiments. These microwell plates must typically be moved among several work stations to complete and measure the results of each assay. Maintaining and overseeing complex workflows involving large numbers of microwell plates requires ongoing attention from trained technicians.

Limited Throughput. Due to the large number of pipetting steps, microwell plates and process steps involved in a conventional microwell workflow, these systems are often unable to perform large-scale experiments in a timely and cost-effective manner.

Limited Low Volume Capabilities. Conventional systems are typically unable to dispense samples and reagents in quantities small enough to conduct certain high sensitivity, low volume techniques, such as digital PCR.

Large Sample Requirements and Significant Running Costs. Biological samples are often available in only very small quantities. As a result, the sample amount that needs to be placed in each well often limits the number of experiments that can be performed. In addition, reagents can be expensive to purchase or produce, and consuming them in microliter or larger quantities results in significant and sometimes prohibitive costs.

High Capital Cost. Because of the limited throughput of conventional systems, multiple pipetting stations, plate handlers and readers may be required to meet the demands of large-scale experimentation, resulting in high capital equipment costs.

Other methods of large-scale experimentation, including microarrays, pre-formatted arrays, bead arrays and mass spectrometer analysis, have been developed to address some of the limitations of conventional microwell plate systems. However, each of these high throughput methods has one or more limitations that reduce its utility for large-scale experimentation.

Microarrays, pre-formatted arrays and bead arrays all lack flexibility because researchers must specify the assays they wish to perform at the time the products are ordered. This in turn limits researchers ability to refine their assay panel during the course of a study. In addition, if researchers wish to use assay panels other than a manufacturer s standard panels, it may take weeks for a customized product to be produced, and the cost may be significant. Furthermore, it is often difficult or impossible to convert existing validated assays for use with these technologies or with mass

spectrometry analysis.

The quality of the data produced by microarrays, pre-formatted arrays and mass spectrometer analysis is insufficient for certain research activities. For genotyping studies, data quality is typically measured by a call rate, which is the percentage of time that a method provides a reading with respect to a particular SNP. Both pre-formatted arrays and mass spectrometer analysis generally have call rates lower than conventional microwell plate systems. For gene expression studies, it is often important to measure expression levels over a broad dynamic range to capture all or most of the variation typically found among subjects. None of microarrays, pre-formatted arrays,

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bead arrays or mass spectrometer analysis routinely measure gene expression levels over as broad a dynamic range as conventional microwell plates.

The workflow for bead arrays and mass spectrometer analysis is complex, time consuming and expensive. For example, standard protocols often require multiple complex operations to be performed over several days by skilled technicians.

These methods can also be very expensive for certain types of large-scale experimentation. For example, a single microarray or bead array is capable of analyzing thousands of genes from a single sample and these devices have been successfully used for surveying the genome to discover basic patterns of gene expression and genotyping. These surveys or association studies are commonly performed on tens or hundreds of samples and are intended to identify a subset of genes for further study. However, for validation studies, which typically require the analysis of thousands or tens of thousands of samples, the high per sample cost of microarrays and bead arrays often make them uneconomical. Similarly, the high initial setup costs for mass spectrometry analysis generally make it economical only for very large-scale studies.

A number of companies have attempted to develop more universal lab-on-a-chip solutions which could perform large numbers of complex biochemical operations on a single device. These chips typically incorporate a variety of micron-level features, such as channels and wells, but lack robust methods of fluid control such as valves. As a result, the products have been unable to support the complex fluidic manipulation required by large-scale experimentation.

The limitations of existing technologies become even more acute when clinicians attempt to translate scientific research into molecular diagnostics. Given the commercial nature of their operations, clinical laboratories need systems that can test large numbers of patient samples at low cost and with minimal labor requirements. Moreover, many of the most promising research studies rely on measuring each sample across tens or even hundreds of SNPs, gene expression levels or protein concentrations to diagnose or classify a disease. We believe that using standard microwell plate technology to make multiple measurements on a large number of samples is often too complex and expensive for most clinical laboratories. As a result, the molecular diagnostic tests adopted by clinical laboratories have generally been relatively simple or have required specialized machines to perform. Diagnostic approaches that require measuring large numbers of SNPs, gene expression levels or protein concentrations are generally not available or are available only from a diagnostic laboratory that specializes in the particular test.

To achieve and exploit breakthroughs in genomics, proteomics and molecular diagnostics, research and clinical laboratories need robust systems that deliver increased throughput and simpler workflows with decreased costs.

The Fluidigm Solution

Our IFC systems are designed to overcome many of the limitations of conventional methods by empowering researchers and clinicians to rapidly perform a large number of experiments at one time and in nanoliter volumes, significantly increasing throughput, reducing costs associated with reagents and patient samples and reducing the time and number of steps involved. Our IFCs deliver these advantages through integration of sophisticated nanoliter fluid handling in an easy-to-use format. We believe the advantages of our IFC systems can be applied to a wide variety of applications across many fields using standard chemistries.

For each application, we provide a complete IFC system consisting of specially designed single-use IFCs, instrumentation, software and support services. Our IFC systems are designed to be easily incorporated into our customers laboratory environments and analysis workflow. For example, our IFCs are the same size and shape as standard 384 microwell plates, which facilitate the loading and handling of our IFCs by standard laboratory equipment. Each IFC includes an elastomeric, or rubber-like, core that contains an extensive network of microfluidic

components, such as valves, channels, pumps, mixers and other components that deliver samples and reagents to thousands of nanoliter volume chambers where individual assays can be performed. In much the same way that semiconductor technology has enabled tremendous computational power to be placed onto a single silicon chip, the integration of large numbers of miniaturized components on our IFCs enables sophisticated fluid handling at high throughput and low cost.

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Our BioMark 48.48 Dynamic Array IFC allows users to individually assay 48 samples against 48 primer-probe sets, generating 2,304 separate real-time qPCR reactions on a single device. In May 2008, we launched our 96.96 Dynamic Array IFC, which is configured to run 96 samples against 96 primer-probe sets, generating 9,216 separate reactions.

The following table compares the performance of one conventional 384 microwell plate to that of one of our 48.48 Dynamic Array IFCs and one of our 96.96 Dynamic Array IFCs for a genotyping study involving 1,000 samples and 96 SNPs:

	384 Microwell Plate (5 µl/well)	Fluidigm 48.48 Dynamic Array IFC	Fluidigm 96.96 Dynamic Array IFC
Runs for Study	250	42	11
Total reaction volume	480 ml	20 ml	10 ml
Pipetting Steps	192,000	4,032	2,112

The advantages of our IFC systems over existing microwell-based systems include:

Reduced Complexity. Loading our IFC requires orders of magnitude fewer pipetting steps than 384 microwell plates for the same experiment, which reduces the time, cost and potential for error.

Improved Throughput. A single IFC based on our 96.96 format can conduct 9,216 real-time qPCR or other assays, or 24 times more assays than a single 384 microwell plate. The improved throughput reduces the time and cost associated with complex experiments and expands the number and range of experiments that may be conducted.

Nanoliter Precision. Our IFC systems allow users to dispense samples and reagents in microliter volumes which are automatically combined and mixed in nanoliter and sub-nanoliter volumes. In addition to cost and workflow benefits, this capability makes it practical for users to conduct certain high sensitivity, low volume techniques, such as digital PCR and single cell analysis.

Reduced Sample and Reagent Requirements. Obtaining patient samples for assays can also be costly, and in many cases the amount of those samples is finite. Our systems typically require between 0.5% and 1.0% of the amount of sample and reagent per reaction as conventional systems, allowing scarce samples and costly reagents to be conserved or tested more extensively.

Decreased Capital Cost. A single BioMark system has the same throughput as the combined throughput of multiple conventional systems. As a result, for high volume users, the cost of purchasing one BioMark system can be much lower than the cost of purchasing the number of competing systems and associated robotic equipment required to provide the same throughput, even though our BioMark system may cost more on a per unit basis.

Compatibility with Existing Infrastructure. Our IFCs incorporate plastic input frames that are the same size as standard microwell plates and are designed to work with the most commonly used laboratory systems, including existing robotic pipetting systems, bar code readers, plate handling systems and other equipment. Our IFCs are also designed to work with standard real-time qPCR techniques and TaqMan chemistries. As a result, we believe users are able to quickly introduce our systems into their laboratories and achieve results equal to or better than they were obtaining with conventional systems.

Our IFC systems also have significant advantages over other high-throughput approaches. For example, our BioMark system can detect gene expression levels over a much broader dynamic range than microarrays, pre-formatted arrays, bead arrays or mass spectrometry analysis. For genotyping, our BioMark system has a call rate equal to or better than conventional microwell-based systems. Also, our IFC systems provide researchers with needed flexibility in assay selection and study design. Unlike microarrays, bead arrays and pre-formatted arrays, our IFCs are not limited to detecting certain predetermined genetic markers. Instead, users can perform experiments with our IFCs using assays from their existing libraries, purchased from a wide variety of commercial sources or

developed in their own laboratories. Finally, the efficient workflow of our IFC systems enables users to complete an IFC run in less than three hours.

Other high throughput approaches have advantages over conventional microwell plate systems that are similar to the advantages of our IFC systems. For example, microarrays, pre-formatted arrays, bead arrays and mass spectrometry analysis all reduce complexity and increase throughput as compared to conventional approaches when used for large scale experimentation, and, in many instances, are more cost-effective than conventional approaches. In addition, pre-formatted arrays significantly reduce sample and reagent consumption as compared to microwell plates. Also, microarrays and bead arrays have call rates for genotyping that are comparable to those obtained with our systems or with microwell plate systems. Because these systems are designed to detect thousands of genetic markers, they are often chosen by researchers to perform very large-scale association or survey studies over conventional microwell plate systems or our systems.

Our IFC systems address the needs of researchers and clinicians who perform large-scale experimentation in the areas of genomics, proteomics and molecular diagnostics. In particular, for validation studies or projects of a similar scale, our IFC systems substantially reduce cost, simplify workflow and increase throughput as compared to conventional microwell plate systems. Nevertheless, researchers and clinicians may be slow to adopt our IFC systems as they are based on technology that, compared to conventional technology, is new and not yet well-established in the industry. Moreover, many of the existing laboratories have already made substantial capital investments in their existing systems and may be hesitant to abandon that investment. While we believe our systems provide significant cost-savings, the initial price of our systems and the price of our IFCs is higher than conventional systems and standard 384 microwell plates. Our IFC systems are less well suited for smaller scale research initiatives where complexity and workflow issues may be less pressing and conventional systems may be more economical. As life science research continues to evolve and is commercialized, we believe that there will be increasing demand for life science automation solutions that enable experimentation on the scale supported by our IFC systems.

Applications

Our IFC technology has the potential to be applied to a vast range of research and commercial applications. We have commercialized IFC systems for life science research applications such as gene expression analysis, genotyping, digital PCR and protein crystallization. We believe that these applications are relevant to markets beyond life science research, such as the development of molecular diagnostics, and that IFC systems can be developed for numerous other life science applications. We and our academic collaborators have developed non-commercial IFCs for a wide variety of applications in the areas of genomics, proteomics, cellular biology and synthetic chemistry. As illustrated by the examples below, researchers have been able to utilize the advantages of our IFC systems in their laboratories to achieve significant research successes.

Current Commercial Applications

Gene Expression Analysis. Researchers may conduct gene expression studies to measure the activity of tens or hundreds of genes across hundreds or thousands of individuals. For these validation studies, it is often important to know the expression level of a gene, not merely whether the gene is on or off, as often either high or low activity level is associated with a particular characteristic or disease state. Our IFC systems have been used to deliver high throughput and precise measurements in gene expression analysis applications. For example, researchers at Myriad Genetics have identified panels of genes that could be used to predict cancer progression or select treatment options. However, the cost and complexity of high-throughput real-time qPCR using conventional microwell plates significantly limited researchers ability to perform the appropriate assays. In response, Myriad Genetics adopted our BioMark system which, together with our Dynamic Array IFCs, has allowed them to significantly reduce their pipetting workload, and therefore pursue research projects that may have been prohibitively cumbersome without our

system.

Genotyping. Researchers performing genotyping studies may begin by surveying the genomes of relatively few individuals looking for tens of thousands or even hundreds of thousands of SNPs. Analysis of these studies will often reveal that a relatively small number of SNPs appear to be correlated with the characteristic of interest. In

order to validate this analysis, researchers may conduct additional studies involving hundreds or even thousands of individuals focused on tens or hundreds of SNPs. For example, the National Cancer Institute s Core Genotyping Facility, or the CGF, collaborates with researchers at other government research centers and academic institutions with the goal of developing screens to identify individuals susceptible to particular forms of cancer and guiding the development of targeted therapeutics. One of the CGF s primary responsibilities in these collaborations is conducting the large-scale experiments necessary to accurately interrogate hundreds of SNPs on many patient samples. In a typical association study, the CGF runs 30 to 300 assays on 1,000 to 10,000 patient samples. Such large-scale studies are difficult and expensive to perform with conventional microwell plate technology. Using our BioMark system, the CGF continues to perform the same assays previously developed in its existing library of over 5,000 assays.

Genotyping analysis is also used in situations where research has already identified particular genetic profiles of interest and there is a need to test a group of subjects to determine which profile they fit. For example, the Alaska Department of Fish and Game uses our BioMark system to perform genotyping analysis to determine the region of origin of salmon caught in commercial or sport fisheries. By analyzing a large number of salmon, the department can gain an understanding of the effects that fisheries have on populations of salmon and thereby manage the resource more effectively. The department has developed panels for three species which range from 40 to 60 SNPs, and its throughput approaches 100,000 samples per year.

Digital PCR. The widespread use of genetic testing in high-risk pregnancies has created strong interest in rapid and accurate molecular diagnostics for certain common chromosomal abnormalities. However, conventional methods have limitations related to speed, precision and the risks associated with sampling a significant amount of material from the fetus during an invasive procedure such as amniocentesis or chorionic villi sampling. Digital PCR has been identified as a technique for highly sensitive and precise nucleic acid measurement, but performing it with conventional laboratory equipment is so cumbersome that it has not been widely adopted. In an article published by Analytical Chemistry in August 2007, researchers at the laboratory of Professor Stephen Quake, our co-founder, at Stanford University demonstrated that digital PCR can be used for accurate measurement of trisomy 21, or Down syndrome. Using our Digital Array IFC and DNA from human cell lines, Dr. Quake s laboratory was able to precisely measure the number of copies of a DNA sequence from this chromosome and at the same time measure the number of copies of a DNA sequence from another chromosome whose copy number does not vary. For trisomy 21, the ratio of these markers is significantly higher than normal. Similar work in pre-natal genetic testing is being pursued using our IFCs by other customers at leading academic institutions. We believe that with further clinical validation and development, such research could be developed into a diagnostic test that would require significantly less material from the fetus and provide results much more rapidly than current methods. We also believe that digital PCR will enable such diagnostics to ultimately be used in a non-invasive fashion, thus further reducing risk to the fetus.

Cancer researchers have identified a particular mutation in chronic myeloid leukemia cells that render those cells resistant to the drug Gleevec. Gleevec is typically used as the initial treatment for this type of leukemia and is often able to put the disease into remission for months or years. However, a significant proportion of these leukemia patients eventually develop mutated leukemia cells that are resistant to Gleevec. These mutated cells are initially very scarce and undetectable using conventional systems, but they eventually multiply and cause the patient to become symptomatic again. Researchers at the Fred Hutchinson Cancer Research Center have used our Digital Array IFC in their laboratory to test patient samples and have been able to detect these mutated cells earlier than with conventional techniques. With additional validation and demonstration of clinical relevance, we believe a test based on digital PCR could be a useful tool for monitoring patients who are diagnosed with chronic myeloid leukemia.

Protein Crystallization. In order to determine how a particular protein interacts with other components of a disease pathway, researchers often attempt to determine its structure using protein crystallization. Because most proteins will crystallize only under very precise conditions that are specific to the particular protein, protein crystallization involves performing numerous assays to determine the conditions under which the protein crystallizes. As described in the

April 2006 issue of the journal *Science,* researchers at the Wilson lab of Scripps Research Institute in La Jolla, California used our Topaz system to understand how the H5N1 avian flu virus can infect humans. Researchers at the Wilson lab had prepared a small sample of the protein that the virus uses to attach

itself to cells in the respiratory tract. With the Topaz system, they were able to quickly screen a few microliters of the sample across a wide variety of different conditions and determine the optimum conditions for protein crystallization. Using this information, they were able to grow larger crystals using standard crystallization techniques. Subsequent analysis of the structure of the crystallized protein revealed why the current form of the avian H5N1 virus has not yet acquired the ability to readily infect humans compared to other flu viruses.

Potential Future Applications

Molecular Diagnostics. Life science research is revealing an increasing number of diseases and conditions that can be diagnosed, evaluated and monitored by measuring panels of gene expression levels, SNPs, proteins or other biomarkers. Validating these research findings and translating them into clinically available tests often requires life science automation systems that are able to efficiently measure multiple biomarkers in a large number of patient samples. Our existing IFC systems are able to measure certain nucleic acid biomarkers that are commonly used in these tests, and we expect that we will be able to develop IFC systems to measure other relevant biomarkers. As described above, researchers have used our IFC systems to detect clinically relevant biomarkers, such as drug resistant leukemia cells and fetal chromosomal abnormalities. We believe that the high throughput, flexibility and simplified workflow of our IFC systems could make them an attractive solution for validating and commercializing a wide range of molecular diagnostic tests being developed by researchers. In addition, we believe that our IFC systems ability to measure gene expression levels across a broad range and to detect nucleic acid sequences present in very low concentrations will support the development and commercialization of molecular diagnostic tests that would not be practical with conventional systems. Our IFC systems have not been cleared or approved by the U.S. Food and Drug Administration, or FDA, for use in any molecular diagnostic tests and we cannot currently market them for the purpose of performing molecular diagnostic tests. We do not have any current plans to develop products that are regulated by the FDA.

Other Applications. We believe that the inherent design flexibility of our core technology allows us to build IFC systems that can provide significant benefits in a wide range of fields and industries. For example, the architecture of our Dynamic Array is flexible and supports the development of IFCs that create matrixed combinations of a variable number of samples versus a variable number of reagents. In addition, our IFC technology utilizes a variety of microfluidic components, such as pumps, mixers and separation columns, that allow the implementation of sophisticated biochemical processes on our IFCs. While we have not commenced commercial development of IFC systems for these fields, we have developed IFCs for internal research purposes in such diverse fields as:

- immunoassays, which can measure levels of protein expression and other molecules in a highly-parallel, multiplexed format;
- high-throughput drug screening, including the analysis of molecules that inhibit protein-protein and protein-nucleic acid interactions;
- chemical synthesis, including production of radio-labeled sugars which in combination with advanced medical imaging can help diagnose and monitor cancer;
- pharmacogenomics, an emerging field that analyzes how variations in human genomes affect the performance and toxicity of therapeutic agents;
- systems biology, an effort to understand the collective behavior of genes as they collaborate in networks;
- synthetic biology, an emerging field aimed at engineering biological systems to build novel biological functions, systems and perhaps organisms; and

cellular assays, including stem cells and regenerative medicine, where our IFCs have been used to isolate, cultivate and analyze single cells.

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Strategy

We intend to become a global leader in providing automated bio-analytical research and molecular diagnostic systems. Our business strategy consists of the following elements:

Establish our IFC Technology as the Leading Solution for a Broad Range of Life Science Applications. Our initial sales and marketing efforts have been focused on establishing our IFC systems as leading solutions for high throughput life science research applications. We intend to leverage the market awareness and acceptance created by our initial product offerings to market new products and applications to life science researchers and to sell new and existing applications to customers in other markets, such as molecular diagnostics and applied genomics.

Continue to Increase the Throughput and Efficiency of Our IFCs. A primary focus of our research and development efforts is the development of IFCs with increased component density and, therefore, the ability to conduct an increased number of experiments on a single IFC. Increasing density provides value to our customers by increasing throughput, enhancing efficiency, reducing labor costs and reducing reagent and sample volumes. We expect that these increased capacity IFCs will allow us to deliver additional capabilities and cost savings, and further improve our competitive position.

Expand Recurring IFC Revenue Stream Through Product Innovation and System Sales. We intend to drive revenue growth by increasing the number of installed IFC systems, improving the cost per test of our IFCs and developing IFCs and systems for additional applications.

Provide Superior Customer Service. We have a global sales force and support organization that offers technical solutions and customer support through direct relationships with our current and potential customers. Through the direct connection with our customers, we are able to better understand their needs and apprise them of new product offerings and technological advances in our current IFC systems, related instrumentation and software, while maintaining a consistent marketing message and high level of customer service.

Enhance IFC Manufacturing Efficiency. We intend to enhance our manufacturing efficiency through improvements in our existing processes, development of new IFC designs and implementation of new manufacturing methods in order to improve our manufacturing yields and reduce our manufacturing costs. We believe that these improvements will enable us to deliver additional value to our customers and to maintain or enhance our advantages over competing systems.

Continue to Develop our Technology and Intellectual Property Position. Our products are based on a set of related proprietary technologies that we have either developed internally or licensed from third parties. We intend to continue making significant investments in research and development to further expand and deepen our technological base. At the same time, we intend to maintain and strengthen our intellectual property position through the continued filing and prosecution of patents in the United States and internationally and through the in-licensing of third party intellectual property as appropriate.

Products

We currently market two IFC systems, the BioMark system for real-time qPCR and the Topaz system for protein crystallization. Each system consists of single-use IFCs, loaders that control the IFCs, readers that detect reactions on the IFCs and software for analyzing, annotating and archiving the data produced by the readers.

The BioMark System for Real-Time qPCR

The BioMark system allows users to perform gene expression analysis, genotyping and digital PCR using standard TaqMan chemistry.

BioMark Dynamic Array IFCs

Our BioMark 48.48 Dynamic Array IFC is based on matrix architecture that allows users to individually assay 48 samples against 48 primer-probe sets, generating 2,304 real-time qPCR reactions on a single device. One version

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of this IFC is optimized to perform gene expression analysis and another is optimized for genotyping, each assay in volumes of 10 nanoliters or less.

We commercially introduced our Dynamic Arrays in the fourth quarter of 2006 and, as of March 29, 2008, 23 customers have purchased Dynamic Array IFCs for use in applications, such as SNP association follow-up studies and single stem-cell gene expression profiling. In May 2008, we launched our 96.96 Dynamic Array IFC, which is configured to run 96 samples against 96 primer-probe sets, generating 9,216 reactions.

BioMark Digital Array IFCs

The BioMark 12.765 Digital Array IFC is based on partitioning architecture that allows users to divide 12 separate samples into 765 smaller samples and perform a real-time qPCR assay against each sample in less than 10 nanoliter volumes. This IFC can be used for digital PCR and to precisely quantify the amount of a particular nucleic acid sequence present in a sample. We have been selling Digital Array IFCs since March 2007 and, as of March 29, 2008, 14 customers have purchased Digital Array IFCs for use in applications, such as characterizing unculturable bacteria and cancer detection.

BioMark Instrumentation and Software

Our NanoFlex IFC Controller for the BioMark system fully automates the setup of IFCs for real-time qPCR-based experiments and includes software for implementing and tracking experiments. The instrumentation for our BioMark system controls the real-time qPCR process and detects the fluorescent signals generated using a white light source, emission and excitation filters, precision lenses, a licensed thermal cycler and a digital camera. We also offer various software packages that provide data analysis following data collection. Our analysis software shows data as color-coded maps of every position on the IFC, as amplification curves and as numeric tabular data.

The Topaz System for Protein Crystallization

The Topaz system allows users to screen protein samples against a set of reagents in order to determine the optimum conditions for crystallizing a protein. The Topaz system includes IFCs similar to our Dynamic Array architecture that have been optimized for highly efficient protein crystallization screening.

Topaz Screening IFCs and Reagents

Our 1.96, 4.96 and 8.96 Screening IFCs for our Topaz system allow users to test 96 different reagents or reagent concentrations against one, four or eight different protein samples. We estimate that our screening IFCs require only 1% the amount of sample used in standard microwell plate technologies, which is important because protein samples are often extremely scarce or difficult to prepare. The 4.96 and 8.96 IFCs provide greater fluid handling efficiency by enabling the parallel processing of different samples containing a particular protein or different constructs of the same protein on a single IFC. This parallel processing saves pipetting steps and allows the user to determine the best sample or construct to use when scaling up production of a protein to generate diffraction-quality crystals.

We also re-sell third party reagents that we have tested with our Topaz system. Though our customers may purchase or make their own reagents for use with our system, we recommend that they use reagents that we have validated.

We commercially introduced our Topaz systems in the first quarter of 2003 and, as of March 29, 2008, 75 customers have purchased Topaz IFCs for use in applications such as functional studies and structure-based drug design.

Topaz Instrumentation and Software

The NanoFlex IFC controller for the Topaz system fully automates the setup of diffusion-based protein crystallization experiments and includes software for tracking experiments.

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The Topaz AutoInspeX II workstation automates the scanning of Topaz IFCs and the identification of reaction chambers where crystallization has occurred. The AutoInspeX II incorporates high-end optical performance and a full suite of software for analyzing and archiving crystallization results. The sophisticated instrumentation and software included in our Topaz system enables users to automatically image and accurately score crystals as small as 10 microns by 20 microns.

Sales and Marketing

We distribute our systems through our direct field sales and support organizations located in North America, Europe and Asia and through distributors or sales agents in several European countries. Our global sales force is able to apprise our current and potential customers of new product offerings and technological advances in our current IFC systems, related instrumentation and software to help drive revenue growth. As our primary point of contact in the marketplace, our sales force ensures a consistent marketing message and high level of customer service, while enhancing our understanding of customer needs. As of December 29, 2007, we had 24 people employed in sales, sales support and marketing, including 9 sales representatives.

Our sales and marketing efforts are targeted at laboratory directors and principal investigators at leading companies and institutions who need reliable, high throughput life science automation solutions to conduct large-scale experimentation. We seek to increase awareness of our products among our target customers through participation in tradeshows and academic conferences including sponsoring scientific lectures by prominent users of our systems. Because our systems are relatively new and require a capital investment, the sales process typically involves numerous interactions and demonstrations with multiple people within an organization. In addition, potential customers will often wish to conduct in-depth evaluations of the system including running identical sets of samples and reagents on both our system and competing systems. As a result of these factors and the budget cycles of our customers, our sales cycle, the time from initial contact with a customer to our receipt of a purchase order, can often be 12 months or longer.

Customers

We have sold our BioMark and Topaz systems to a wide variety of biotechnology and pharmaceutical companies and to academic, governmental and clinical research institutions. As of March 29, 2008, 75 of our Topaz systems have been installed at customer sites and 20 of our BioMark systems have been installed at customer sites. The following is a list of our representative customers in each of the listed markets.

Customer	Market	Application
MedImmune	Gene Expression	Pharmaceutical drug development real-time qPCR for gene expression profiling in research and clinical trials
Myriad Genetics	Gene Expression	Cancer and diagnostics research real-time qPCR for differential gene expression in cancer studies
Merck & Co.	Gene Expression	Gene expression profiling for pharmaceutical drug development
Alaska Department of Fish and Game	Genotyping	Government wild-life resource management SNP genotyping for identification of salmon species
National Cancer Institute	Genotyping	

		Academic basic research; clinical diagnostics research genotyping for cancer research
Chinese University of Hong Kong	Digital PCR	Academic basic research; clinical diagnostics research digital PCR for early cancer detection
Vertex Pharmaceuticals	Protein crystallization	Pharmaceutical drug discovery

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Revenue Concentration. We receive a substantial portion of our revenue from a limited number of customers and grantors. For the year ended December 29, 2007, the Singapore Economic Development Board, or EDB, accounted for 24% of our total revenue. For the year ended December 31, 2006, CTI Molecular Imaging accounted for 16% of our total revenue, Kikotech Co., Ltd. accounted for 14% of our total revenue and EDB accounted for 14% of our total revenue. For the year ended December 31, 2005, Kikotech accounted for 16% of our total revenue and a collaboration agreement accounted for 14% of our total revenue. We anticipate that we will continue to be dependent on a limited number of customers and grantors for a significant portion of our revenue in the near future. The loss of any of these customers could have a material adverse effect on our results of operations and cash flows.

Competition

We compete with both established and development stage life science companies that design, manufacture and market instruments for gene expression analysis, genotyping, other nucleic acid detection and additional applications using established laboratory techniques. For example, companies such as Affymetrix, Applied Biosystems, BioTrove, Illumina, Roche Diagnostics and Sequenom have products for gene expression and/or genotyping that compete in certain segments of the market in which we sell our BioMark system. In addition, a number of other companies and academic groups are in the process of developing novel technologies for genetic analysis, many of which have also received grants from the National Human Genome Research Institute, a branch of the National Institutes of Health.

The high-throughput life science platforms industry is highly competitive and expected to grow more competitive with the increasing knowledge gained from molecular biology experimentation. Many of our competitors are either publicly-traded or are divisions of publicly-traded companies and enjoy several competitive advantages over us, including:

- significantly greater name recognition;
- greater financial and human resources;
- broader product lines and product packages;
- larger sales forces;
- larger and more geographically dispersed customer support organization;
- substantial intellectual property portfolios;
- established customer bases and relationships; and
- greater experience in research and development, manufacturing and marketing.

We believe that the principal competitive factors in our markets include:

- cost of capital equipment and supplies;
- ease of use;
- accuracy and reproducibility of results; and
- compatibility with existing laboratory processes.

In order to successfully compete with existing products and future technologies, we will need to demonstrate to potential customers that the cost savings and performance of our technologies and products, as well as our customer support capabilities, are superior to those of our competitors.

Technology

Our products are based on a tiered set of related proprietary technologies that we have either developed internally or licensed from third parties.

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Multi-Layer Soft Lithography

Our IFCs are manufactured using a technology known as multi-layer soft lithography, or MSL. With MSL, we are able to use standard semiconductor manufacturing techniques, along with certain proprietary processes, to create complex integrated microfluidic devices.

Using MSL technology, we are able to create valves, chambers, channels and other fluidic components on our IFCs at high density. We combine these components in complex arrangements that allow nanoliter quantities of fluids to be precisely directed to specific positions within the IFC. Unlike most prior microfluidic technologies, our IFCs do not rely on electricity, magnetism or similar approaches to control fluid movement. Rather, our IFCs control fluid flow with valves. The most important components on our IFCs are our NanoFlex valves, which are created by the intersection of two channels. When the valve is open, fluid is able to flow through the lower channel. When the upper or control channel is pressurized, the material separating the two channels is deflected into the lower channel, closing the valve and stopping fluid flow. If pressure is removed from the control channel, the channels return to their original form, and the valve is again open. The elastomeric properties of IFC cores allow our NanoFlex valves to form a reliable seal and cycle through millions of openings and closings.

The elastomer we currently use for our commercial products is a form of silicone rubber known as polydimethylsiloxane, or PDMS, but we have researched other materials with different properties for specific purposes. PDMS is transparent, which allows fluid movement to be easily monitored with a variety of existing optical technologies, such as bright field or phase contrast microscopy. In addition, the gas permeability of PDMS allows the reliable metering of fluids with near picoliter precision by eliminating the bubble problems encountered by most other microfluidic technologies. In essence, we are able to pump fluids into closed reaction chambers at sufficient pressure to drive any air out of the chamber directly through the chamber walls. PDMS also supports an environment that is favorable to maintaining cell cultures.

We have developed commercial manufacturing processes to fabricate valves, channels and chambers with dimensions in the 10 to 100 micron range, at high density and with high reliability. For research purposes, we have created devices with both substantially smaller and larger features. Though our manufacturing is based on standard semiconductor manufacturing technologies and techniques, we have also developed novel processes for mold fabrication that enable mass production of high density IFCs with nanoliter volume features.

Integrated Fluidic Circuits

Our IFCs incorporate several different types of technology that together enable us to use MSL to rapidly design and deploy new microfluidic applications.

Microfluidic Components. The first level of our IFC technology is a library of components that perform basic microfluidic functions. We have proven designs for numerous elements, such as pumps, mixers, separation columns, control logic and reaction chambers. These are readily integrated to create circuits capable of performing a wide range of biochemical reactions. Even when it is necessary to integrate multiple elements to perform a particularly complex reaction, the area taken up on a circuit for a single reaction is small compared to a typical overall circuit size of three centimeters by three centimeters. As a result, we are routinely able to develop IFCs that perform thousands of reactions per square centimeter.

Architectures. The second level of our IFC technology comprises the architectures we have designed to exploit our ability to conduct thousands of reactions on a single IFC. The first of these is the Dynamic Array, a matrix architecture that allows multiple different samples and multiple different reagents to be loaded onto a single IFC and then combined so that there is an isolated reaction between each sample and each reagent. The primary advantage of

this architecture is that each sample and reagent has to be pipetted only once per IFC rather than once per reaction, as is the case with plate-based technologies. For example, a single 48.48 Dynamic Array IFC can perform a total of 2,304 unique reactions between 48 samples and 48 reagents with only 96 pipetting steps. With conventional microwell plate-based technologies, the same experiment would require about 4,608 pipetting steps and at least six conventional microwell plates. Our Digital Array architecture provides similar benefits with respect to pipetting steps and fluid handling. The Digital Array architecture allows a sample to be split into hundreds or thousands of smaller samples. Separate reactions can then be conducted on each of the smaller samples.

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Interface and Handling Frames. The third level of our IFC technology involves the interaction of our IFCs with the actual laboratory environment. The elastomeric blocks at the center of our IFCs sit in specially designed frames that are able to deliver samples and reagents to the block. These frames are the same size as standard 384 microwell plates and have sample and reagent input ports laid out in a standard 384 microwell plate format. As a result, our IFCs can be loaded with standard laboratory pipetting robots and can be used with standard plate handling equipment.

Technological Advances. In the second quarter of 2002, we sold the first prototype of our 1.48 IFC for our Topaz system, which featured 22 valves capable of 2.5 assays per square centimeter. In the second quarter of 2006, we introduced our 12.765 Digital Array IFC, with over 1,000 valves capable of more than 1,000 assays per square centimeter, a 46-fold increase in valve density and a 400-fold increase in assay capability. The chart below illustrates the timing of a number of our technological advances. We introduced our 96.96 Dynamic Array IFC in May 2008, which again increased the number of valves and assays per square centimeter relative to the 48.48 Dynamic Array. In the semiconductor industry, Moore s Law describes the principle that the shrinking of features has allowed for a doubling of transistors on a chip approximately every 18 months. Based on manufacturing processes borrowed from those in the semiconductor industry, Fluidigm has similarly achieved significant gains in the density and productivity of our IFCs.

Software and Instrumentation

We have developed instrumentation technology to load samples and reagents on to the IFC and to control and monitor reactions within our IFCs. Our NanoFlex controller consists of commercial pneumatic components and both custom and commercial electronics. It uses precise control of multiple pressures to independently move fluid through up to four IFCs simultaneously and can be configured for use with either our BioMark or Topaz systems. Our Topaz Auto-InspeX II workstation consists of a commercial microscope, illumination source, stage and camera system in a single package. Our BioMark system consists of a commercial thermal cycler packaged with a sophisticated fluorescence detection system. All of these instruments are designed to be easily introduced into standard automated lab environments.

We have developed specialized software packages to manage and analyze the unusually large amounts of data produced by our systems. Our BioMark gene expression analysis software automatically identifies individual real-time qPCR reactions from fluorescent images and generates amplification threshold crossing values allowing researchers to readily perform complete normalized comparative gene expression analysis across large numbers of samples and assays. Similarly, the BioMark genotyping analysis software automatically clusters fluorescent intensities from individual genotype reactions and makes genotype calls across individual and multiple IFC runs. Our Topaz system software incorporates sophisticated image processing and analysis functionality that enables the

automatic detection and classification of protein crystals. Most of our software development uses Microsoft.NET tools to facilitate interaction with typical laboratory information management systems.

Manufacturing

Our manufacturing operations are located in Singapore and South San Francisco. Our Singapore facility fabricates all of our IFCs for commercial sale. IFCs for research and development purposes are fabricated at both locations. We manufacture instrument systems at both locations, with certain instruments assembled in Singapore and others in South San Francisco.

Our Singapore facility commenced operations in October 2005 and established full process capability for its first product, the Topaz Screening IFC, in June 2006 and for its first Dynamic Array, the 48.48 Dynamic Array in October 2006. Our Singapore facility has been producing components for our Topaz system since October 2006 and components for our BioMark system since December 2007.

We established our manufacturing facility in Singapore to take advantage of the skilled workforce, supplier and partner network, lower operating costs and government support available there. Our IFC manufacturing process includes photolithography and fabrication technologies that are very similar to those used in the fabrication of semiconductor chips. As a result, we are able to hire from a pool of skilled manpower created by the existing semiconductor industry in Singapore. Similarly, the Singapore semiconductor industry has created a broad network of potential suppliers and partners for our manufacturing operations. We are able to locally source a large proportion of the raw materials required in our processes and have been able to collaborate with local engineering companies to develop enabling technologies for IFC fabrication. We have made significant improvements in yields through process improvements at our Singapore facility and IFC production increased three-fold in 2007 compared to 2006.

Our manufacturing operations in Singapore have been supported by grants from the Singapore Economic Development Board, or EDB, which provide partial reimbursement of qualifying costs arising from research and development projects relating to our manufacturing process. Our arrangements with EDB require us to maintain a significant and increasing manufacturing and research and development presence in Singapore.

Our South San Francisco facility began producing Topaz systems in 2002. In 2005, our South San Francisco facility began assembling instrumentation for our BioMark system.

We expect that our existing manufacturing capacity for instrumentation and IFCs is sufficient to meet our needs for at least the next two years. However, we are considering developing additional capacity in order to ensure that all or most of our products are produced by at least two different facilities. We believe that having dual sources for our products would help mitigate the potential impact of a production disruption at any one of our facilities and that such redundancy may be required by our customers in the future. We have not determined the timing or location of any additional manufacturing capacity.

We rely on a limited number of suppliers for certain components and materials used in our systems. While we are in the process of qualifying additional sources of supply, we cannot predict how long that qualification process will last. If we were to lose one or more of our limited source suppliers, it would take significant time and effort to qualify alternative suppliers. Key components in our products that are supplied by sole or limited source suppliers include a thermal cycler customized to our specifications, a specialized polymer from which our IFC cores are fabricated, the plastic carrier that holds the IFC core in certain of our products and the specialized high resolution camera lenses used in the reader for our BioMark system. We are neither a major customer of our suppliers, nor do we have long term supply contracts with most of these suppliers. These suppliers may therefore give other customers needs higher priority than ours, and we may not be able to obtain adequate supply in a timely manner or on commercially

reasonable terms.

We have entered into a supply agreement with Eppendorf AG to provide to us a thermal cycler customized to our specifications. Pursuant to this agreement, we have agreed to purchase from Eppendorf at least a specified minimum number of units each year in exchange for volume discounts. We have also agreed, during the term of the agreement, not to manufacture or sell a product, in stand-alone form, or compete in any way directly or indirectly with the customized thermal cycler provided by Eppedorf in stand-alone form. Eppendorf has agreed to refrain from providing a similarly customized unit to any person or entity until two years after the agreement has terminated.

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Either party may terminate the agreement with good reason, which includes a failure to timely deliver conforming units, subject to a cure period. Eppendorf may terminate the agreement if we purchase fewer than 75% of the specified minimum units for each of two consecutive years. After April 1, 2010, either party may terminate the supply agreement upon six months prior written notice.

Research and Development

We have assembled experienced research and development teams at our South San Francisco and Singapore locations with the scientific, engineering, software and process talent that we believe is required to grow our business.

New Product and Application Development

The largest component of our current research and development effort is in the areas of new product and new application development. In particular, we are focused on extending and supporting the BioMark and Topaz product lines by developing new DNA-based applications, improving the introduction of these products into existing workflows of our customers and increasing the functionality of the products. For example, the addition of multi-color analysis allows Digital Array users to analyze as many as 36,720 real-time qPCR assays in parallel on a single Digital Array.

We are also developing new product lines that leverage our investment in our Dynamic Array and Digital Array architectures. As an example, we have demonstrated Dynamic Array formats that can implement over 1,000 immunoassays in parallel. We also invest in extending the reach of existing chip designs through new chemistries. From time to time, we collaborate with other life science companies, universities and government labs on the development of prototype IFCs for particular purposes. For example, there have been a variety of publications by independent researchers demonstrating the use of MSL for applications such as immunoassays based on surface-plasma resonance, cell culturing and complementary DNA library synthesis from single cells.

Process Development

The second component of our research and development effort is process development. We frequently develop new manufacturing processes and test methods to support new IFC designs, drive down manufacturing cost and increase manufacturing throughput. We also invest in manufacturing automation, process changes and design modifications in order to improve yield and lower costs on existing IFCs.

New Technology Development

We have active research and development efforts to increase the density of components on our IFCs and to lower the materials cost of our current production methods. We are evaluating new materials that can increase the functionality of existing products and that would allow our IFCs to be used for a wider variety of biological and chemical reactions. Over the longer term, we are seeking ways to transfer functionality from instrumentation to IFCs to support development of field-based and point-of-care applications.

Our research and development expenses were $11.4 million, $15.6 million, $14.4 million and $3.3 million in 2005, 2006, 2007 and the three months ended March 29, 2008. As of December 29, 2007, 68 of our employees were engaged in research and development activities.

Scientific Advisory Board

We maintain a scientific advisory board, consisting of members with experience and expertise in the field of microfluidic systems and their application, who provide us with consulting services. The scientific advisory board generally does not meet as a group but instead, at our request, the individual members advise us on matters related to their areas of expertise. We have entered into agreements with each of our advisors, other than Stephen Quake, that require them spend between 6 and 12 days each year advising us and provide for stock option grants to the advisor.

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Dr. Quake serves as chair of the Scientific Advisory Board pursuant to a broader consulting agreement with us. Our scientific advisory board consists of the following members:

Stephen Quake, Ph.D. is a co-founder of Fluidigm and the chair of our scientific advisory board. He is a co-chair of the bioengineering department at Stanford University and an investigator of the Howard Hughes Medical Institute. Dr. Quake received a B.S. in Physics and a M.S. in Mathematics from Stanford University and a Ph.D. in Physics from Oxford University. Dr. Quake has been a member of our scientific advisory board since June 1999.

Frances H. Arnold, Ph.D. is the Dick and Barbara Dickinson Professor of chemical engineering and biochemistry at the California Institute of Technology. She is a member of the National Academy of Engineering and a fellow at the American Institute for Medical and Biological Engineering. Dr. Arnold received a B.S. in Mechanical and Aerospace Engineering from Princeton University and a Ph.D. in Chemical Engineering from the University of California, Berkeley. Dr. Arnold has been a member of our scientific advisory board since August 1999.

James M. Berger, Ph.D. is a Professor of Biochemistry and Molecular Biology at the University of California, Berkeley and a member of the Physical Biosciences Division, Lawrence Berkeley National Laboratory. Dr. Berger received a B.S. in Biochemistry from the University of Utah and a Ph.D. in Biochemistry from Harvard University. Dr. Berger has been a member of our scientific advisory board since June 2002.

Carl Hansen, Ph.D. is an Assistant Professor in the Department of Physics and Astronomy at the University of British Columbia. Dr. Hansen received a Ph.D. and M.S. in Applied Physics from the California Institute of Technology and a B.S. in Engineering Physics/Electrical Engineering/Honors Math from the University of British Columbia. Dr. Hansen has been a member of our Scientific Advisory Board since May 2008.

Frank McCormick, Ph.D. is the David A. Wood Distinguished Professor of Tumor Biology and the E. Dixon Heise Distinguished Professor in Oncology at the University of California, San Francisco, or UCSF. He is also the director of UCSF s Comprehensive Cancer Center. He is a member of the Institute of Medicine and a fellow of The Royal Society. Dr. McCormick received a B.Sc. in Biochemistry from the University of Birmingham and a Ph.D. in Biochemistry from the University of Cambridge. Dr. McCormick has been a member of our scientific advisory board since November 2006.

Howard M. Shapiro, M.D. is a lecturer on Pathology at Harvard Medical School, a visiting scientist at the Rosenstiel Basic Medical Sciences Research Center at Brandeis University and a research associate in Medicine and Pathology at Beth Israel Hospital. Dr. Shapiro received a B.A. from Harvard College and an M.D. from New York University School of Medicine. Dr. Shapiro has been a member of our scientific advisory board since December 1999.

Richard N. Zare, Ph.D. is the Marguerite Blake Wilbur Professor of Natural Science and chair of the chemistry department at Stanford University. He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences and the recipient of the National Medal of Science. Dr. Zare received a B.S. in Chemistry and Physics and a Ph.D. in Chemical Physics from Harvard University. Dr. Zare has been a member of our scientific advisory board since December 2000.

Intellectual Property Strategy and Position

Fluidigm s core technology originated at the California Institute of Technology, or Caltech, in the laboratory of Professor Stephen Quake, who is a co-founder of Fluidigm. Dr. Quake, his students and their collaborators pioneered the application of multilayer soft lithography in the field of microfluidics. In particular, Dr. Quake s laboratory developed technologies that enabled the production of specialized valves and pumps capable of controlling fluid flow at nanoliter volumes. In a series of transactions, we exclusively licensed from Caltech the relevant patent filings

relating to these developments.

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Our license agreement with Caltech provides us with an exclusive, worldwide license to certain patents and related intellectual property, as well as the right to prosecute licensed patent filings worldwide at our expense and to initiate any infringement proceedings. Caltech retains the right to use the licensed materials for noncommercial educational and research purposes, as well as any rights necessary to comply with the statutory rights of the U.S. government. We have issued shares of our common stock to Caltech and, in addition to an annual license fee, we agreed to pay to Caltech royalties based on sales revenues of licensed products on a country-by-country basis. The license agreement will terminate as to each country and licensed product upon expiration of the last-to-expire patent covering licensed products in each country.

We also have co-exclusive licenses to patents and patent applications owned by Harvard University, a non-exclusive, field-limited license to patents and patent applications controlled by Gyros AB and additional patent licenses from other academic institutions and companies.

Our license agreements with Harvard University allow us to grant sublicenses of our rights in limited situations, and Harvard retains the right to use and to grant to others non-exclusive licenses to use the patented subject matter for academic research purposes. We have issued shares of our common stock to Harvard and, in addition to an annual license fee, we agreed to pay to Harvard royalties based on sales revenues of licensed products on a country-by-country basis. Harvard is responsible for filing and maintaining all licensed patents, but we must reimburse Harvard for our share of its related patent prosecution expenses. We have the right to prosecute any infringement of our licensed patent rights. The license agreement will terminate with the last-to-expire of the licensed patents.

Our license agreement with Gyros AB grants us a non-exclusive, field-limited license to specified patents and patent applications filings in exchange for an upfront fee plus annual royalty payments based on net revenues of licensed products above an annual license fee. Gyros has the right to terminate if we assign our interest to a third party competitor of Gyros or if we come under common control of such a third party. Otherwise, the license will terminate at the expiration of the last-to-expire of the licensed patents.

Our license agreement with The UAB Research Foundation grants us an exclusive worldwide license, including the right to sublicense, under certain intellectual property rights. Such license grant is subject to prior existing license grants, plus the reservation of rights to UAB for internal research, academic and educational purposes and/or for performance of services for other institutions and to fulfill obligations to the U.S. government. We prosecute and maintain the patent rights licensed under this agreement. The license agreement will terminate at the expiration of the last-to-expire of the licensed patents.

Our patent strategy is to seek broad patent protection on new developments in microfluidic technology and then later file patent applications covering new implementations of the technology and new microfluidic circuit architectures utilizing the technology. As these technologies are implemented and tested, we file new patent applications covering scientific methodology enabled by our technology. Additionally, where appropriate, we file new patent applications covering instrumentation and software that are used in conjunction with our IFCs.

As of March 29, 2008, we own or have licensed 81 issued US patents and 62 issued international patents. There are 240 pending patent applications, including 116 in the United States, 118 international applications and 6 applications filed under the Patent Cooperation Treaty. The issued patents we have licensed from Caltech expire between 2019 and 2024, and the issued patents owned by us expire between 2018 and 2025.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. Our patents may not enable us to obtain or keep any competitive advantage. Our pending U.S. and foreign patent applications may not issue as patents or may not issue in a form that will be advantageous to us. Any patents we have

obtained or do obtain may be challenged by re-examination, opposition or other administrative proceeding, or may be challenged in litigation, and such challenges could result in a determination that the patent is invalid. In addition, competitors may be able to design alternative methods or devices that avoid infringement of our patents. To the extent our intellectual property protection offers inadequate protection, or is found to be invalid, we are exposed to a greater risk of direct competition. If our intellectual property does not provide adequate protection against our competitors products, our competitive position could be adversely affected, as could our business. Both

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the patent application process and the process of managing patent disputes can be time consuming and expensive. Furthermore, the laws of some foreign countries may not protect our intellectual property rights to the same extent as do the laws of the United States.

In addition to pursuing patents on our technology, we have taken steps to protect our intellectual property and proprietary technology by entering into confidentiality agreements and intellectual property assignment agreements with our employees, consultants, corporate partners and, when needed, our advisors. Such agreements may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements, and we may not be able to prevent such unauthorized disclosure. Monitoring unauthorized disclosure is difficult, and we do not know whether the steps we have taken to prevent such disclosure are, or will be, adequate.

Our commercial success may depend in part on our non-infringement of the patents or proprietary rights of third parties. Third parties have asserted and may assert in the future that we are employing their proprietary technology without authorization. Competitors may assert that our products infringe their intellectual property rights as part of a business strategy to impede our successful entry into those markets. In addition, our competitors and others may have patents or may in the future obtain patents and claim that use of our products infringes these patents. We could incur substantial costs and divert the attention of our management and technical personnel in defending against any of these claims. Parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize and sell products, and could result in the award of substantial damages against us. In the event of a successful claim of infringement against us, we may be required to pay damages and obtain one or more licenses from third parties, or be prohibited from selling certain products. We may not be able to obtain these licenses at a reasonable cost, if at all.

Government Regulation

The Federal Food, Drug and Cosmetic Act, or FFDCA, defines medical devices to mean, among other things, an instrument, apparatus . . . in vitro reagent, or other similar or related article . . . intended for use in the diagnosis of disease or other conditions . . .. This broad definition includes in vitro diagnostic products, or IVDs. Our products are currently labeled and sold for research purposes only, and we sell them to pharmaceutical and biotechnology companies, academic institutions and life sciences laboratories. Because our products are not intended for use in clinical practice, they do not fit the definition of a medical device under the FFDCA and thus are not subject to regulation by the U.S. Food and Drug Administration, or FDA. However, in the future, certain of our products or related applications could be subject to the FDA s regulation, the FDA s regulatory jurisdiction could be expanded to include our products, or both. For example, if we wished to label and market our products for use in performing clinical diagnostics, they would be considered medical devices and FDA clearance or approval would be required.

Unless an exemption applies, each medical device we wish to commercially distribute in the United States would require either prior 510(k) clearance or prior pre-market approval from the FDA. The FDA classifies medical devices into one of three classes. Devices deemed to pose lower risk to the patient are placed in either class I or II, which, unless an exemption applies, requires the manufacturer to submit a pre-market notification requesting FDA clearance for commercial distribution pursuant to Section 510k of the FFDCA. This process, known as 510(k) clearance, requires that the manufacturer demonstrate that the device is substantially equivalent to a previously cleared 510(k) device or a pre-amendment class III device for which pre-market approval applications, or PMAs, have not been required by the FDA. This process typically takes from four to twelve months, although it can take longer. Most class I devices are exempted from this requirement. Devices deemed by FDA to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices, or those deemed not substantially equivalent to a legally marketed predicate device, are placed in class III. Class III devices typically require PMA approval. To obtain PMA approval, an applicant must demonstrate the safety and effectiveness of the device based, in part, on data obtained in

clinical studies. PMA reviews generally last between one and two years, although they can take longer. Both the 510(k) and the PMA processes can be expensive and lengthy and may not result in clearance or approval. If we are required to submit our products for pre-market review by FDA, we may be required to cease marketing while we obtain premarket clearance or approval from FDA. There would be no assurance that we could ever obtain such clearance or approval.

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Changes to a device which have received PMA approval typically require a new PMA or PMA supplement. Changes to a device that receives 510(k) clearance, that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, require a new 510(k) clearance or possibly PMA approval. The FDA requires each manufacturer to make this determination initially, but the FDA can review any of these decisions. If the FDA disagreed with our determination not to seek a new 510(k) clearance, the FDA could require us to seek a new 510(k) clearance or pre-market approval. The FDA also could require us to cease manufacturing and/or recall the modified device until 510(k) clearance or pre-market approval was obtained. Also, in these circumstances, we could be subject to warning letters, significant regulatory fines or penalties, seizure or injunctive action, or criminal prosecution.

In addition, if our products become subject to regulation as a medical device, we would become subject to additional FDA requirements, and we could be subject to unannounced inspections by FDA and other governmental authorities, which could increase our costs of doing business. Specifically, manufacturers of medical devices must comply with various requirements of the FFDCA and its implementing regulations, including:

- the Quality System Regulations, labeling regulations,
- medical device reporting, or MDR, regulations,
- correction and removal regulations, and
- post-market surveillance regulations, which include restrictions on marketing and promotion.

We would need to continue to invest significant time and other resources to ensure ongoing compliance with FDA quality system regulations and other post-market regulatory requirements.

Our failure to comply with applicable FDA regulatory requirements, or our failure to timely and adequately respond to inspectional observations, could result in enforcement action by the FDA, which may include the following sanctions:

- fines, injunctions and civil penalties;
- recall or seizure or our products;
- operating restrictions, partial suspension or total shutdown of production;
- delays in clearance or approval, or failure to obtain approval or clearance of future product candidates or product modifications;
- restrictions on labeling and promotion;
- warning letters, fines, or injunctions;
- withdrawal of previously granted clearances or approvals; and
- criminal prosecution.

International sales of medical devices are subject to foreign government regulations, which vary substantially from country to country. The primary regulatory environment in Europe is that of the European Union (EU), which includes most of the major countries in Europe. Currently, 27 countries make up the EU. Other countries, such as Switzerland,

have voluntarily adopted laws and regulations that mirror those of the EU with respect to medical devices. The EU has adopted numerous directives and standards regulating the design, manufacture, clinical trials, labeling and adverse event reporting for medical devices. Devices that comply with the requirements of a relevant directive will be entitled to bear the CE conformity marking, indicating that the device conforms to the essential requirements of the applicable directives and, accordingly, can be commercially distributed throughout Europe.

Outside of the EU, regulatory approval needs to be sought on a country-by-country basis in order to market medical devices. Although there is a trend towards harmonization of quality system standards, regulations in each country may vary substantially which can affect timelines of introduction.

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Employees

As of December 29, 2007, we had 131 employees, of which 68 work in research and development, 18 work in general and administrative, 21 work in manufacturing and 24 work in sales and marketing. None of our employees are represented by a labor union or are the subject of a collective bargaining agreement.

Property and Environmental Matters

We lease approximately 35,000 square feet of office and laboratory space at our headquarters in South San Francisco, California under leases and subleases that expire in March 2011, and 13,000 square feet of manufacturing and office space at our facility in Singapore under a lease that expires in September 2008. In addition, we lease office space in Tokyo and Osaka, Japan. We are in negotiations to extend and expand our lease relating to our Singapore facility and we believe that our existing office, laboratory and manufacturing space, together with additional space and facilities available on commercially reasonable terms, will be sufficient to meet our needs for at least the next two years.

Our research and development and manufacturing processes involve the controlled use of hazardous materials, including flammables, toxics, corrosives and biologics. Our research and manufacturing operations produce hazardous biological and chemical waste products. We seek to comply with applicable laws regarding the handling and disposal of such materials. Given the small volume of such materials used or generated at our facilities, we do not expect our compliance efforts to have a material effect on our capital expenditures, earnings and competitive position. However, we cannot eliminate the risk of accidental contamination or discharge and any resultant injury from these materials. We do not currently maintain separate environmental liability coverage and any such contamination or discharge could result in significant cost to us in penalties, damages and suspension of our operations.

Legal Proceedings

We are not engaged in any material legal proceedings.

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MANAGEMENT

Executive Officers and Directors

Our executive officers and directors, and their ages and positions as of March 29, 2008, are as set forth below:

Name	Age	Position
Gajus V. Worthington	38	President, Chief Executive Officer and Director
Vikram Jog	51	Chief Financial Officer
Robert C. Jones	53	Executive Vice President, Research and Development
William M. Smith	57	Vice President, Legal Affairs and General Counsel, Secretary
Mai Chan (Grace) Yow	49	Vice President, Worldwide Manufacturing and Managing Director of Fluidigm Singapore Pte. Ltd.
Samuel Colella[2],[3]	68	Director
Michael W. Hunkapiller, Ph.D[2]	59	Director
Elaine V. Jones, Ph.D.[1],[3]	53	Director
Kenneth Nussbacher[1],[2]	55	Director
John A. Young[3]	75	Director

(1) Member of the Audit Committee
(2) Member of the Compensation Committee
(3) Member of the Nominating and Governance Committee

Executive Officers

Gajus V. Worthington is a Co-Founder of Fluidigm and has served as our President and Chief Executive Officer and a Director since our inception in June 1999. From May 1994 to April 1999, Mr. Worthington held various staff and management positions at Actel Corporation, a public semiconductor corporation. Mr. Worthington received a B.S. in Physics and an M.S. in Electrical Engineering from Stanford University.

Vikram Jog has served as our Chief Financial Officer since February 2008. From April 2005 to February 2008, Mr. Jog served as Chief Financial Officer for XDx, Inc., a molecular diagnostics company. From March 2003 to April 2005, Mr. Jog was a Vice President of Applera Corporation, a life science company, and Vice President of Finance for its related businesses, Celera Genomics and Celera Diagnostics. From April 2001 to March 2003, Mr. Jog was Vice President of Finance for Celera Diagnostics and Corporate Controller of Applera Corporation. Mr. Jog received a Bachelor of Commerce degree from Delhi University and an M.B.A. from Temple University. Mr. Jog is a member of the American Institute of Certified Public Accountants.

Robert C. Jones has served as our Executive Vice President, Research and Development since August 2005. From August 1984 to July 2005, Mr. Jones held various managerial and research and development positions at Applied Biosystems, a laboratory equipment and supplies manufacturer that is a division of Applera Corporation, including: Senior Vice President Research and Development from April 2001 to August 2005, Vice President and General Manager Informatics Division from 1998 to 2001, and Vice President PCR Business Unit from 1994 to 1998.

Mr. Jones received a BSEE and an MSEE in Computer Engineering from the University of Washington.

William M. Smith has served as our Vice President, Legal Affairs and General Counsel as well as our Secretary since May 2000 and served as a Director from May 2000 to April 2008. Mr. Smith served as a partner at the law firm of Townsend and Townsend and Crew, LLP from 1985 through April 2008. Mr. Smith received a J.D. and an M.P.A. from the University of Southern California and a B.A. in Biology from the University of California, San Diego.

Mai Chan (Grace) Yow has served as our Vice President, Worldwide Manufacturing, and Managing Director, Fluidigm Singapore Pte. Ltd., our Singapore subsidiary, since March 2006. From June 2005 to March 2006,

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Ms. Yow served as General Manager of Fluidigm Singapore Pte. Ltd. From August 2004 to May 2005, Ms. Yow served as Vice President Engineering (Asia) for Kulicke and Soffa, a public semiconductor equipment manufacturer. From March 1991 to July 2004, Ms. Yow served as Director, Assembly Operations, Plant Facilities and EHS, for National Semiconductor Singapore, a semiconductor fabrication subsidiary of National Semiconductor Corporation. Ms. Yow received a BE in Electronic Engineering from Curtin University, a Certificate in Management Studies from the Singapore Institute of Management and a Diploma in Electrical Engineering from Singapore Polytechnic.

Board of Directors

Samuel Colella has served as a member of our Board of Directors since July 2000. Mr. Colella is a managing director of Versant Ventures, a healthcare venture capital firm he co-founded in 1999, and has been a general partner of Institutional Venture Partners since 1984. Mr. Colella is a member of the Board of Directors of Alexza Pharmaceuticals, Inc., Genomic Health, Inc. and Jazz Pharmaceuticals, Inc. Mr. Colella received a B.S. in business and engineering from the University of Pittsburgh and an M.B.A. from Stanford University.

Michael Hunkapiller, Ph.D. has served as a member of our Board of Directors since August 2005. He has been a Partner at Alloy Ventures, a venture capital firm, since February 2004. From July 1983 to August 2004, he served in various managerial and research and development positions at Applied Biosystems, most recently as President, from March 1997 to August 2004. He received a B.S. in Chemistry from Oklahoma Baptist University and a Ph.D. in Chemical Biology from Caltech.

Elaine V. Jones, Ph.D. has been a member of our Board of Directors since October 2001. Since August 2003, she has been a general partner of EuclidSR Associates, L.P., which is the general partner of EuclidSR Partners, L.P., a venture capital fund that focuses on life sciences and information technology companies, and also a general partner of EuclidSR Biotechnology Associates, L.P., which is the general partner of Euclid Biotechnology Partners, L.P., a venture capital fund that focuses on the life sciences. Dr. Jones was an investment manager from June 1999 to September 2001, and was a Vice President from September 2001 to August 2003, for S.R. One, Limited, a venture capital subsidiary of SmithKline Beecham. Dr. Jones received a B.S. in Biology from Juniata College and received a Ph.D. in Microbiology from the University of Pittsburgh.

Kenneth J. Nussbacher has been a member of our Board of Directors since July 2003. Since 2000, Mr. Nussbacher has served as an Affymetrix Fellow, a non-executive employee position, at Affymetrix, Inc., a biotechnology company. From 1995 to 2000, Mr. Nussbacher was Executive Vice President of Affymetrix, Inc. and from 1995 to 1997, he was also Chief Financial Officer of Affymetrix. Prior to joining Affymetrix, Mr. Nussbacher was Executive Vice President for business and legal affairs of Affymax Technologies N.V. He received a B.S. from Cooper Union and a J.D. from Duke University. Mr. Nussbacher is also a member of the Board of Directors of Xenoport, a biopharmaceutical company.

Gajus V. Worthington is a Co-Founder of Fluidigm Corporation and has served as our President and Chief Executive Officer and a Director since our inception in June 1999.

John A. Young has been a member of our Board of Directors since March 2001. Mr. Young retired as President and Chief Executive Officer of Hewlett-Packard Company, a diversified electronics manufacturer, in October 1992, where he had served as President and Chief Executive Officer since 1978. Mr. Young received a B.S. in Electrical Engineering from Oregon State University and an M.B.A. from Stanford University. Mr. Young serves as a director of Affymetrix, Inc., Vermillion, Inc., a molecular diagnostics company, Perlegen Sciences, Inc., a drug development company, and Nanosys, Inc., a nanotechnology company.

Board Composition

Our Board of Directors is currently composed of six members, five of whom are independent within the meaning of the independent director guidelines of the NASDAQ Stock Market LLC. Immediately prior to this offering, our Board of Directors will be divided into three staggered classes of directors. At each annual meeting of stockholders, a class of directors will be elected for a three-year term to succeed the same class whose terms are then expiring. The terms of the directors will expire upon the election and qualification of successor directors at the

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Annual Meeting of Stockholders to be held during the years 2009 for the Class I directors, 2010 for the Class II directors and 2011 for the Class III directors.

Our Class I directors will be Elaine Jones and Michael Hunkapiller.

Our Class II directors will be Samuel Colella and Kenneth Nussbacher.

Our Class III directors will be John Young and Gajus Worthington.

Our amended and restated certificate of incorporation and bylaws provide that the number of our directors, which is currently six members, shall be fixed from time to time by a resolution of the majority of our Board of Directors. Each officer serves at the discretion of the Board of Directors and holds office until his successor is duly elected and qualified or until his or her earlier resignation or removal. There are no family relationships among any of our directors or executive officers.

The division of our Board of Directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change of control. See Description of Capital Stock Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws for a discussion of other anti-takeover provisions found in our certificate of incorporation.

Board Committees

Our Board has an audit committee, a compensation committee and a nominating and governance committee, each of which has the composition and the responsibilities described below.

Audit Committee. Our audit committee oversees our corporate accounting and financial reporting process and assists the Board in monitoring our financial systems and our legal and regulatory compliance. Our audit committee will also:

oversee the work of our independent auditors;

approve the hiring, discharging and compensation of our independent auditors;

approve engagements of the independent auditors to render any audit or permissible non-audit services;

review the qualifications and independence of the independent auditors;

monitor the rotation of partners of the independent auditors on our engagement team as required by law;

review our financial statements and review our critical accounting policies and estimates;

review the adequacy and effectiveness of our internal controls; and

review and discuss with management and the independent auditors the results of our annual audit, our quarterly financial statements, and our publicly filed reports.

The members of our audit committee are Elaine Jones and Kenneth Nussbacher. Mr. Nussbacher is our acting audit committee chairman. We are currently conducting a search for an additional audit committee member who we expect to serve as chairman and as financial expert under the rules of the Securities and Exchange Commission, or SEC, implementing Section 407 of the Sarbanes Oxley Act of 2002. We expect that, prior to the completion of this offering,

that the composition of our audit committee will meet the requirements for independence under the current requirements of the NASDAQ Stock Market LLC and SEC rules and regulations. We believe that the functioning of our audit committee complies with the applicable requirements of the NASDAQ Stock Market LLC and SEC rules and regulations.

Compensation Committee. Our compensation committee oversees our corporate compensation programs. The compensation committee will also:

review and recommend policy relating to compensation and benefits of our officers and employees;

review and approve corporate goals and objectives relevant to compensation of our Chief Executive Officer and other senior officers;

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evaluate the performance of our officers in light of established goals and objectives;

recommend compensation of our officers based on its evaluations; and

administer the issuance of stock options and other awards under our stock plans;

The members of our compensation committee are Samuel Colella, Michael Hunkapiller and Kenneth Nussbacher. Mr. Colella is the chairman of our compensation committee. Our Board of Directors has determined that each member of our compensation committee is independent within the meaning of the independent director guidelines of the NASDAQ Stock Market LLC. We believe that the composition of our compensation committee meets the requirements for independence under, and the functioning of our compensation committee complies with, any applicable requirements of the NASDAQ Stock Market LLC and SEC rules and regulations.

Nominating and Governance Committee. Our nominating and governance committee oversees and assists our Board of Directors in reviewing and recommending nominees for election as directors. The nominating and governance committee will also:

evaluate and make recommendations regarding the organization and governance of the Board and its committees;

assess the performance of members of the Board and make recommendations regarding committee and chair assignments;

recommend desired qualifications for Board membership and conduct searches for potential Board members; and

review and make recommendations with regard to our corporate governance guidelines.

The members of our nominating and governance committee are Elaine Jones, John Young and Samuel Colella. Ms. Jones is the chairman of our nominating and governance committee. Our Board of Directors has determined that each member of our compensation committee is independent within the meaning of the independent director guidelines of the NASDAQ Stock Market LLC.

Our Board of Directors may from time to time establish other committees.

Director Compensation

The following table sets forth information concerning compensation paid or accrued for services rendered to us by members of our Board of Directors for the fiscal year ended December 29, 2007. The table excludes Mr. Worthington and Mr. Smith, who are Named Executive Officers and did not receive any compensation from us in their roles as directors in the fiscal year ended December 29, 2007.

	Fees Earned or Paid in	Stock Awards	Option Awards	Non-Equity Incentive Plan Compensation	All Other Compensation	Total

	Cash ($)	($)[1]	($)[1]	($)	($)	($)
Bruce Burrows[3]		$	$	$	$	$
Samuel D. Colella		$	$	$	$	$
Hingge Hsu[3]		$	$	$	$	$
Michael Hunkapiller		$	$	$	$	$
Elaine V. Jones		$	$	$	$	$
S. Edward Torres[3]		$	$	$	$	$
Kenneth J. Nussbacher[2]		$	$ 72,885	$	$ 40,000	$ 112,885
John A. Young		$	$	$	$	$

(1) Amounts represent the aggregate compensation expense recognized by us for financial statement reporting purposes in fiscal 2007 related to grants of stock options in 2007, calculated in accordance with Financial Accounting Standards Board Statement of Financial Accounting Standards No. 123 (Revised 2004) (SFAS No. 123(R)) without regard to estimated forfeitures. See Note 2 of Notes to Consolidated Financial Statements for a discussion of valuation assumptions made in determining the grant date fair value and compensation expense of our stock options.

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(2) For his service as a director, Mr. Nussbacher was granted an option to purchase 100,000 shares of common stock on December 28, 2007 at an exercise price of $2.40, with a grant date fair value of $143,151, computed in accordance with SFAS 123(R). Mr. Nussbacher was paid fees of $40,000 for services rendered pursuant to a consulting agreement with us. This consulting agreement was terminated on April 14, 2008.
(3) Resigned from the Board of Directors on or prior to April 2008.

The aggregate number of shares subject to stock options outstanding at December 29, 2007 for each director is as follows:

Name	Aggregate Number of Stock Options Outstanding as of December 29, 2007 (#)
Bruce Burrows	50,000
Samuel D. Colella	
Hingge Hsu	
Michael Hunkapiller	
Elaine V. Jones	
Kenneth J. Nussbacher	200,000
S. Edward Torres	
John A. Young	

Our directors do not currently receive any cash compensation for their services as members of our Board of Directors or any committee of our Board of Directors.

Upon consummation of our initial public offering, non-employee directors will receive an annual retainer of $20,000. The chairman of the audit committee will be paid an additional annual retainer of $15,000. The chairman of the compensation committee will be paid an additional annual retainer of $10,000. The chairman of the nominating and governance committee will be paid an additional annual retainer of $5,000.

Our outside director equity compensation policy was adopted by our Board of Directors on January 29, 2008 and will become effective immediately upon the completion of this offering. The policy is intended to formalize the granting of equity compensation to our non-employee directors under the 2008 Equity Incentive Plan. Non-employee directors may receive all types of awards under the 2008 Equity Incentive Plan, except for incentive stock options, including discretionary awards not covered by the policy. The policy provides for automatic and nondiscretionary grants of nonstatutory stock options subject to the terms and conditions of the policy and the 2008 Equity Incentive Plan.

Under the policy, each non-employee director, who first becomes a non-employee director following the effective date of the first registration statement filed by us and declared effective with respect to any class of our securities, will be automatically granted a stock option to purchase 40,000 shares of our common stock on the date such person first becomes a non-employee director. A director who is an employee and who ceases to be an employee, but who remains a director will not receive such an initial award.

In addition, each non-employee director will be automatically granted an annual stock option to purchase 10,000 shares of our common stock on the date of each annual meeting beginning on the date of the first annual meeting that is held at least six months after such non-employee director received his or her initial award. In connection with the closing of this initial public offering, each non-employee director serving on our Board at the time of this offering will be automatically granted an option to purchase 10,000 shares of our common stock at the price per

share at which such common stock is sold in this offering.

The exercise price of all stock options granted pursuant to the policy will be equal to the fair market value of our common stock on the date of grant. The term of all stock options will be 10 years. Subject to the adjustment provisions of the 2008 Equity Incentive Plan, initial awards will vest as to 25% of the shares subject to such awards each anniversary of the date of grant, provided such non-employee director continues to serve as a director through each such date. Subject to the adjustment provisions of the 2008 Equity Incentive Plan, the annual awards, including such awards granted in connection with this offering, will vest monthly over a twelve month period following the date of grant, provided such non-employee director continues to serve as a director through such date.

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The administrator of the 2008 Equity Incentive Plan in its discretion may change or otherwise revise the terms of awards granted under the outside director equity compensation policy.

In the event of a change in control, as defined in our 2008 Equity Incentive Plan, with respect to awards granted under the 2008 Equity Incentive Plan to non-employee directors, the participant non-employee director will fully vest in and have the right to exercise awards as to all shares underlying such awards and all restrictions on awards will lapse, and all performance goals or other vesting criteria will be deemed achieved at 100% of target level and all other terms and conditions met.

Code of Business Conduct and Ethics

Prior to the completion of this offering, we expect to adopt a code of business conduct and ethics that is applicable to all of our employees, officers and directors.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is an officer or employee of our company. None of our executive officers currently serves, or in the past year has served, as a member of the Board of Directors or compensation committee of any entity that has one or more executive officers serving on our Board of Directors or compensation committee.

Executive Compensation

Compensation Discussion and Analysis

Overview

We seek to have a compensation program that supports a team ethic among our management, fairly rewards executives for corporate performance and provides incentives for executives to meet or exceed our short and long term goals. The primary components of our compensation program are base salary, an annual incentive bonus plan, option awards and change of control arrangements. In addition, we provide our executive officers a variety of benefits that are available generally to all salaried employees. The compensation committee of our Board of Directors is responsible for evaluating the compensation of our executive officers and making recommendations to the Board of Directors. The independent members of the Board of Directors have final approval authority with respect to executive compensation.

Objectives and Principles of Our Executive Compensation

The primary goal of our executive compensation program is to ensure that we hire and retain talented and experienced executives that are motivated toward achieving or exceeding our short-term and long-term corporate goals. As a starting point, we believe that it is critical that our executive officers work together as a team and look beyond departmental lines to achieve overall corporate goals rather than focusing on individual departmental objectives. Our compensation philosophy is team oriented and our success dependent on what our management team can accomplish together. Therefore, we seek to provide the executive officers listed in the Summary Compensation table below, or our named executive officers, with comparable levels of base salary, bonuses and equity awards that are based largely on overall company performance.

For our fiscal year 2007, our named executive officers were Gajus Worthington, President and Chief Executive Officer, Richard DeLateur, our former Chief Financial Officer, Michael Lucero, our former Executive Vice President,

Sales and Marketing, William Smith, Vice President, Legal Affairs and General Counsel, Robert Jones, our Executive Vice President, Research and Development, Grace Yow, Vice President, Worldwide Manufacturing and Managing Director, Fluidigm Singapore. Mr. DeLateur resigned as our Chief Financial Officer effective February 29, 2008 and Mr. Lucero resigned as our Executive Vice President, Sales and Marketing on March 14, 2008.

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While the compensation level of Mr. Worthington, our Chief Executive Officer, is marginally higher than our other executive officers, his compensation has historically been based on our team-based compensation philosophy rather than on CEO compensation levels reported in market surveys of other companies in the life science industry.

We strongly believe that executive compensation should be directly linked to our performance. Our compensation program is designed so that a significant portion of the potential compensation of all of our executive officers is contingent on the achievement of our business objectives. In rewarding performance, we seek to reward both short and long term performance. We expect our executive leadership to manage our company so that we achieve our annual goals while at the same time positioning us to achieve our longer term strategic objectives. Short term elements of compensation include annual salary reviews, stock option awards and incentive bonuses that are tied closely to achieving our corporate and, to a lesser extent, on achieving individual performance objectives. Long term elements have historically been limited to stock options with multi-year vesting designed to retain executives and align their long term interests with those of our stockholders.

We believe that hiring and retaining well performing executives is important to our ongoing success. While we review generally available surveys on executive compensation to confirm that our compensation decisions do not result in compensation levels that are dramatically different from other companies in our industry, the compensation committee has not in the past attempted to benchmark our executive compensation against any particular indices or salary surveys. While occasional review of market surveys is considered helpful, the compensation committee has historically placed substantially greater weight on internal considerations than on position-specific pay differences found in the market.

Except as described below, neither the Board of Directors nor the compensation committee has adopted any formal or informal policies or guidelines for allocating compensation between cash and non-cash compensation, among different forms of non-cash compensation or with respect to long and short term performance. The determination of the Board of Directors or compensation committee as to the appropriate use and weight of each component of executive compensation is subjective, based on their view of the relative importance of each component in meeting our overall objectives and factors relevant to the individual executive. Historically, our Board of Directors has focused significantly on the affordability of our compensation arrangements. As a result, when weighting forms of compensation, the Board of Directors and the compensation committee have historically placed greater emphasis on non-cash equity incentive compensation together with base salary. In 2006, the Board of Directors determined that our business was of sufficient maturity to permit us to establish a cash bonus plan.

As a publicly held company, we expect to periodically engage the services of a compensation consultant to assist us in further aligning our compensation philosophy with our corporate objectives. In particular, in order to attract and retain key executives, we may be required to modify individual executive compensation levels to remain competitive in the market for such positions.

Compensation Process and Compensation Committee

For 2007 and January 2008, the compensation committee consisted of Messrs. Colella and Nussbacher and Ms. Jones. Since January 29, 2008, the compensation committee has consisted of Messrs. Colella, Nussbacher and Hunkapiller, each of whom is an independent director under the rules of the NASDAQ Stock Market LLC and a non-employee director for purposes of Rule 16b-3 under the Securities Exchange Act of 1934, as amended.

The compensation committee makes recommendations to the Board regarding compensation structure, goals and individual compensation levels, which recommendations are considered for approval by the independent members of the Board. The compensation committee makes its compensation recommendations based on input from Mr. Worthington, our Chief Executive Officer, the judgment of its members based on their tenure and experience in

our industry, and, starting with compensation levels for 2007, the advice of Compensia, Inc., an independent compensation consultant hired by the compensation committee in April 2007. The compensation committee has the responsibility of formulating, evaluating and recommending to the Board of Directors the compensation of our executive officers. Historically, our annual compensation review process has been initiated by Mr. Worthington who performs a review of the performance of each executive officer in the prior year and formulates proposals regarding the elements of compensation, corporate and individual goals and compensation levels for our executive officers, other than himself. Mr. Worthington s proposals for compensation structure, goals

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and individual compensation levels are typically based on discussions with and directions from members of the compensation committee. Mr. Worthington does not prepare proposals or advise the compensation committee on his own compensation.

Compensation levels and mix for Mr. Worthington, our Chief Executive Officer, are recommended by the compensation committee based on the committee s assessment of our overall corporate performance and Mr. Worthington s contribution to that performance. Mr. Worthington does not participate in compensation committee or Board deliberations regarding his own compensation. As with other members of our executive team, the compensation committee determines Mr. Worthington s compensation based on our achievement of corporate objectives and compensation levels of other members of our executive team, rather than attempting to tie Mr. Worthington s compensation to a specific percentile of CEO compensation reported in market compensation surveys.

Subject to any limitations or guidelines that may be adopted by the Board of Directors in the future, the compensation committee does have the authority to approve the grant of stock options or stock purchase rights to individuals eligible for such grants, including officers and directors. The compensation committee met three times during 2007 and we expect that it will meet at least quarterly during 2008.

The compensation committee has the authority under its charter to engage the services of outside advisors, experts and others for assistance. In April 2007, the compensation committee engaged Compensia, Inc., an outside consulting firm, to advise it on developing a principles based executive compensation strategy to help transition us from a privately held to a publicly held company and on matters relating to our equity compensation plans as a whole. Compensia reviewed our proposed 2007 compensation philosophy and compensation levels and provided advice regarding the suitability of our executive compensation structure for a company at our stage of development and the impact the structure was likely to have on executive performance and our ability to attract executive talent. Compensia did not prepare a formal report or recommend specific compensation levels. In 2008, we expect the compensation committee will engage an outside consulting firm to review more broadly our compensation practices and provide specific recommendations on executive compensation levels.

After setting compensation levels for our executive officers for 2007, but before making its recommendations to the Board, the compensation committee reviewed the 2006 Radford Biotechnology Survey by Aon Consulting and the 2006 Executive Compensation Survey for pre-IPO life science companies by Top Five Data Services, Inc. to confirm that the proposed mix and levels of compensation for our executive officers was not outside of the ranges reported for senior executive officers in general. The compensation committee did not benchmark or tie compensation levels for our executive officers to any particular compensation level provided by the companies included in these surveys.

Corporate and Individual Performance Goals

2007 Corporate Goals. Our corporate and individual performance goals for each year are formulated by the Board of Directors with input from the compensation committee and our Chief Executive Officer. For 2007, two corporate goals were established. The first related to our selling a certain number of IFC systems and reaching certain revenue targets, whether through system sales or collaboration agreements. The second goal related to our equity fund raising activity. The compensation committee believed attaining these goals would take a high level of executive performance and that such goals would be very challenging given the initial lack of market awareness of our products in 2007. The committee did not assign weights to these goals, except to treat them as equally important.

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2007 Individual Goals. Individual goals for 2007 were as follows:

Named Executive Officer	2007 Individual Goals
Gajus Worthington, Chief Executive Officer	Achieving target levels of sales of our IFC systems and achieving target revenues, whether through system sales or collaboration agreements. Raising target levels of equity financing.
Richard DeLateur, former Chief Financial Officer	Preparing our finance organization for an initial public offering and public company status.
Michael Lucero, former Executive Vice President, Sales and Marketing	Launching our BioMark product and developing a strategy for new market penetration.
William Smith, Vice President, Legal Affairs and General Counsel	Maintaining and advancing our intellectual property position with respect to existing and new products.
Robert Jones, Executive Vice President, Research and Development	Deliver commercial genotyping applications, digital array applications and finish feasibility phase of additional products.
Mai Chan (Grace) Yow, Vice President, Worldwide Manufacturing and Managing Director of Fluidigm Singapore	Achieving specified IFC manufacturing yields and output levels.

2008 Corporate Goals. For 2008, the Board, with the participation of the compensation committee and members of management, reassessed our corporate goals in light of the maturation of our business and commercialization of our products. Following this reassessment, the Board approved corporate goals that include achieving specified levels of product sales and product gross margins, completing an initial public offering and keeping expenses and cash outlays within the budget approved by the Board of Directors. The Board believes that the goals are attainable with a very high level of executive performance. The target sales level represents significant growth from 2007 levels and will be achieved only if we are able to increase market awareness of our products and expand our customer base. The targeted gross margin will require significant contributions from both our manufacturing and research and development groups. Given the uncertainty in global financial markets, our ability to complete an initial public offering was also uncertain at the time these corporate goals were established. Achieving our overall corporate goals while staying within our proposed budget will require strong fiscal discipline.

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2008 Individual Goals. The goals for our individual executives in 2008 are as follows:

Named Executive Officer	2008 Individual Goals
Gajus Worthington, Chief Executive Officer	Achieving specified levels of product sales and product gross margins, completing an initial public offering and keeping expenses and cash outlays within the budget approved by the Board of Directors.
Vikram Jog, Chief Financial Officer	Ensuring accurate revenue recognition during each quarter, closing our books in an accurate and timely manner, completing our 2005, 2006 and 2007 audits and ensuring compliance with applicable financial and disclosure regulations of the Securities and Exchange Commission.
William Smith, Vice President, Legal Affairs and General Counsel	Maintaining our intellectual property position and supporting our initial public offering.
Robert Jones, Executive Vice President, Research and Development	Completing market-ready 96.96 BioMark IFC, loaders and readers for 96.96 and certain future applications.
Mai Chan (Grace) Yow, Vice President, Worldwide Manufacturing and Managing Director of Fluidigm Singapore	Achieving overall IFC yields sufficient to achieve our gross margin goals, achieving specified yields on our new 96.96 Dynamic Array IFC, maintaining or improving 2007 quality levels for our IFC systems and ensuring on-time manufacture and delivery of IFCs and IFC systems.

Elements of Executive Compensation

Our executive compensation program consists of four main elements: base salary, an annual incentive bonus plan, option awards and change of control arrangements. The following is a discussion of each element.

Base Salary.

Prior to 2007, the Board and the compensation committee established base salaries based on a number of factors including the scope of responsibility of each individual and a desire to encourage a team ethic. In 2007, the compensation committee and the Board concluded that our company and its stockholders would be better served by placing greater emphasis on creating a team ethic among our executive officers and that a team ethic would be better supported if all executive officers received approximately the same salary. Therefore, in May 2007, the compensation committee recommended and the Board approved a raise in the base annual salaries of Richard DeLateur, Michael Lucero, William Smith and Robert Jones to $265,000 effective February 1, 2007, which represented a 20% increase for Mr. DeLateur, a 2.5% increase for Mr. Lucero, a 16% increase for Mr. Smith and a 6% increase for Mr. Jones, based on their salaries for 2006. This salary increase was based upon the compensation committee s assessment of the life science industry in the San Francisco Bay Area gathered from the active involvement of committee members as investors in such industry and the committee s conclusion that competition for executives in our industry was increasing. Ms. Yow s salary was set at S$307,224, or US$200,000 using the exchange rate at the time such salary was set, to reflect the lower cost of living in Singapore where she is based. At the same time, the compensation committee also recommended that Mr. Worthington s salary be increased by 5% to $283,920 based on the factors described above. However, Mr. Worthington requested that this salary increase be deferred until his performance during 2007 could be assessed. In December 2007, the compensation committee reviewed Mr. Worthington s overall performance

during the year. In particular, it noted that Mr. Worthington had fully met his individual goal for equity financing as we had raised more money than had been targeted and had partially met his individual goal for revenue, as we had strong sales performance although the target revenue level was not achieved. The compensation committee therefore recommended and the Board approved the 5% raise that had been originally proposed for Mr. Worthington. The raise was made retroactive to February 15, 2007 so that it would be effective as of the same date as the raises for all the other executive officers.

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In January 2008, the compensation committee reviewed 2008 base salaries in light of general market conditions in the San Francisco Bay Area life science industry. The compensation committee concluded that competition for executive talent remained strong as a result of the solid economic performance of the industry and the region overall, the continued high level of investment by venture capital firms in new and existing life science companies and the specialized skills and experiences required to manage life science companies. The compensation committee s assessment of general market conditions in the life science industry, and the life science industry in the San Francisco Bay Area in particular, was based on the experience of the committee members who were and are actively involved in venture capital investing in such industry and area. The compensation committee did not rely on any formal compensation survey data in making its assessment. The compensation committee therefore recommended and the Board approved a 4.0% raise for all executive officers other than Messrs. DeLateur and Lucero, who were expected to be leaving Fluidigm in early 2008. This 4.0% raise was applied to Ms. Yow s salary in Singapore dollars, resulting in an increase of S$12,289. As a result, the 2008 base salary for Mr. Smith and Mr. Jones was increased to $275,600, the 2008 base salary for Ms. Yow was increased to S$319,513, or US$232,002 on the date of the increase, and the 2008 salary for Mr. Worthington was increased to $294,840. These salary increases became effective on February 1, 2008.

In January 2008, we entered into an offer letter with Vikram Jog, our Chief Financial Officer that provides for him to receive a base salary of $278,000 per year and a signing bonus of $20,000. The Board approved this departure from our standard base salary and bonus practice for executive officers based on several factors, including his unique qualifications, the need to induce him to leave his existing employment, his base salary at his previous employer and our need to fill the position as soon as possible.

Incentive Bonus Plan.

For 2007, the compensation committee and the Board established a bonus structure for all named executive officers that provided for performance bonuses of up to 35% of base salary. 80% of the performance bonus was payable based upon our reaching our corporate goals described above, with each corporate goal receiving equal weighting and the remaining 20% payable to each executive based on the executive s attainment of his or her individual performance goals described above. Payment of performance bonuses was allocated among corporate and individual goals in this manner in recognition of our compensation philosophy in which the compensation committee sought to incentivize executive officers to look beyond their individual departmental goals and work with other executive officers to achieve our overall corporate goals. The compensation committee and Board concluded that the corporate goals portion of the bonus would not be payable if the goals were less than 80% attained, based on the average percentage completion of all such goals, and would be paid in full if the goals were 100% attained. The compensation committee retained discretion to determine the portion of the bonus that would be paid if the corporate goals were achieved at a level between 80% and 100%. The compensation committee also retained the discretion to change the bonus structure and the bonus payment amounts as it considered appropriate.

In January 2008, the compensation committee concluded that the first 2007 corporate goal described above had been partially met and the second 2007 corporate