TRANSGENOMIC INC
Form S-1
November 30, 2005
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As filed with the Securities and Exchange Commission on November 30, 2005

Commission File No.: 333-_____

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

TRANSGENOMIC, INC.

(Exact Name of Registrant As Specified In Its Charter)

Delaware	**91-1789357**
(State of Incorporation)	**(IRS Employer I.D. Number)**

12325 Emmet Street Omaha, Nebraska 68164 (402) 452-5400

(Address, including zip code, and telephone number, including area code, of registrant s principal executive offices)

Collin J. D Silva

President and Chief Executive Officer 12325 Emmet Street Omaha, Nebraska 68164 (402) 452-5400

(Name, address and telephone number of Agent for Service)

Copies to:

Steven P. Amen

Kutak Rock LLP

1650 Farnam Street

Omaha, Nebraska 68102

Tel: (402) 346-6000

Fax: (402) 346-1148

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: From time to time after the effective date of this Registration Statement as determined by market conditions.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. ¨

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 of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. x

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. ¨

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. ¨

If delivery of the Prospectus is expected to be made pursuant to Rule 434, please check the following box. ¨

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be Registered	**Amount to be registered**	**Proposed maximum offering price per unit(1)**	**Proposed Maximum Aggregate Offering Price**	**Amount of Registration Fee**

Common Stock, par value $0.01	25,038,320(2)	$0.885	$22,158,913	$2,371

(1) Calculated pursuant to Rule 457(c) based on the average of the high and low sale price of the shares reported on the Nasdaq Stock Market on November 25, 2005.

(2) Consists of 16,975,743 shares currently outstanding and 8,039,640 shares issuable upon exercise of warrants.

We hereby amend this Registration Statement on such date or dates as may be necessary to delay its effective date until we file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this Registration Statement shall become effective on such date as the Commission, acting according to Section 8(a), may determine.

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

Subject to Completion, dated November 30, 2005

PRELIMINARY PROSPECTUS

25,038,320 Shares

TRANSGENOMIC, INC.

COMMON STOCK

This Prospectus covers 25,038,320 shares (Shares) of our common stock that the selling stockholders listed under Principal and Selling Stockholders may sell from time to time. These Shares consist of:

up to 16,975,743 Shares outstanding held by the selling shareholders; and

up to 8,062,577 Shares that may be issued upon exercise of outstanding warrants.

The selling stockholders may sell the shares at the then prevailing market price for the shares at the time of the sale, or at other prices. The last reported sale price for our common stock on November 29, 2005 was $0.96 per share. The selling stockholders are offering the Shares as described under Plan of Distribution. We will not receive any of the proceeds from the sale of these shares by the selling stockholders, but will be entitled to the proceeds from the exercise of outstanding warrants.

Our common stock is listed on the Nasdaq National Market under the symbol TBIO.

Investing in our common stock involves a high degree of risk. You should carefully consider the information under the heading Risk Factors beginning on page 5 of this Prospectus before buying shares of our common stock.

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

_____, 2005

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Forward-Looking Statements

This Prospectus contains certain forward-looking statements. Many of these forward-looking statements refer to our plans, objectives, expectations and intentions, as well as our future financial results and are subject to risk and uncertainty. You can identify these forward-looking statements by words such as expects, anticipates, intends, plans, may, believes, seeks, estimates and similar expressions. Because th forward-looking statements involve risks and uncertainties, there are many factors that could cause our actual results to differ materially from those expressed or implied by these forward-looking statements, including those discussed under Risk Factors in this Prospectus or described in reports that we file from time to time with the Securities and Exchange Commission, such as our Forms 10-K and 10-Q, as amended.

You should rely only on the information contained in this Prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. The information in this Prospectus is current as of its date. Our business, financial condition, results of operations and prospects may have changed since that date.

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PROSPECTUS SUMMARY

The items in the following summary are described in more detail later in this Prospectus. This summary provides an overview of selected information and does not contain all of the information you should consider. Therefore, you should also read the more detailed information set out in this Prospectus, including the consolidated financial statements and related notes appearing elsewhere in this Prospectus, before investing in our common stock. In particular, you should carefully consider the information discussed under Risk Factors. All references to we, us or the Company in this Prospectus mean Transgenomic, Inc.

TRANSGENOMIC, INC.

Our Business

We develop, manufacture and sell innovative products for the analysis, synthesis and purification of nucleic acids through two operating segments, BioSystems and Nucleic Acids.

The BioSystems operating segment develops, assembles, manufactures and markets versatile products and provides analytical services to the medical research, clinical and pharmaceutical markets for use in genetic variation analysis. Products and services are sold through a direct sales force in the United States and throughout much of Western Europe. For the rest of the world, products and services are sold through more than 25 dealers and distributors located in those local markets. Net sales from this operating segment are categorized as bioinstruments, bioconsumables and discovery services.

Bioinstruments. The flagship product of the BioSystems operating segment is the WAVE system which has broad applicability to genetic variation detection in both molecular genetic research and molecular diagnostics. There was a world-wide installed base of 1,269 WAVE systems as of September 30, 2005. Additionally, this operating segment utilizes its sales and distribution network to sell a number of independent, third party equipment platforms. Service contracts to maintain installed systems are sold and supported by technical support personnel.

Bioconsumables. The installed WAVE base generates a demand for consumables that are required for the system s continued operation. These products are developed, manufactured and sold by this operating segment. In addition, the BioSystems operating segment manufactures and sells consumable products that can be used on multiple, independent platforms. These products include SURVEYOR Nuclease and a range of HPLC separation columns.

Discovery Services. The BioSystems operating segment provides various genetic laboratory services through a contract research lab in Gaithersburg, Maryland and a second laboratory in Omaha, Nebraska that operates in a Good Laboratory Practices (GLP) compliant environment and is certified under the Clinical Laboratory Improvement Amendment. The services provided primarily include (1) genomic biomarker analysis services to pharmaceutical and biopharmaceutical companies to support preclinical and clinical development of targeted therapeutics; and (2) molecular-based testing for hematology, oncology and certain inherited diseases for physicians and third-party laboratories.

The Nucleic Acids operating segment develops, manufactures and markets chemical building blocks for nucleic acid synthesis to biotechnology, pharmaceutical, oligonucleotide synthesis companies and research institutions throughout the world. These products are produced primarily in

this operating segment s only facility, in Glasgow, Scotland. Prior to November 11, 2004, this operating segment also manufactured synthesized segments of nucleic acids (known as oligonucleotides) in a facility in Boulder, Colorado. On November 11, 2004, the assets associated with this facility were sold to an unaffiliated

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third party. As a result, the Nucleic Acids operating segment no longer manufactures and sells these specialized oligonucleotides. A substantial portion of this operating segment s revenues during 2005 and 2004 have been derived from one customer.

We have experienced recurring net losses resulting in an accumulated deficit of $110.88 million at September 30, 2005 and have historically relied upon cash flows from investing and financing activities to offset significant cash outflows from operating activities. We instituted significant changes during the fourth quarter of 2004 designed to, among other things, better align our cost structure with projected revenues, focus on opportunities in our BioSystems operating segment, and minimize the adverse financial effect of our Nucleic Acids operating segment. Specifically, during the fourth quarter of 2004, we sold our manufacturing facility in Boulder, Colorado and implemented a restructuring plan. While the primarily goals of these changes were to provide the foundation for a self-sustaining, growth-oriented company with positive cash flows and earnings, there can be no assurance that we can achieve these goals. Our business strategy going forward is to achieve revenue growth in our BioSystems operating segment and to better align our cost structure with anticipated revenues in both of our operating segments.

Recent Financing Activities

On October 31, 2005, we closed on a private placement of securities to institutional investors (the 2005 Private Placement). The securities issued consisted of: (i) 14,925,743 shares of the Company s common stock, plus (ii) five-year, non-callable warrants to purchase another 5,970,297 shares of common stock with an exercise price of $1.20 per share. The aggregate purchase price for the securities sold was $1.01 per share of common stock initially being sold or $15.08 million. In conjunction with this transaction, we issued a warrant to Oppenheimer & Co., Inc. to purchase 932,859 shares at $1.20 per share as part of their placement fee.

The net proceeds from the 2005 Private Placement were $13.90 million after transaction costs of $1.18 million. These proceeds were partially used to repay all outstanding principal and accrued interest on our convertible line of credit (the Credit Line) and convertible term note (the Term Note) to Laurus Master Fund, Ltd. (Laurus) (collectively, the Laurus Loans) including fees to facilitate the 2005 Private Placement and prepayment penalties to Laurus in the sum of $0.82 million. As a result, our Laurus Loans have been cancelled and are no longer available to us. The remaining proceeds of $5.35 million will be used for future working capital needs.

Shares to be sold by Selling Stockholders

This Prospectus covers 25,038,320 shares of our common stock that the selling stockholders listed under Principal and Selling Stockholders may offer and resell from time to time. These shares consist of (i) 14,925,743 shares issued in conjunction with the 2005 Private Placement; (ii) 6,903,156 shares issuable upon the exercise of warrants that were also issued in conjunction with the 2005 Private Placement; (iii) 2,050,000 shares in conjunction with a private placement that closed in the fourth quarter of 2003; and (iv) 1,159,421 shares issuable upon the exercise of outstanding warrants that were issued primarily in conjunction with our past indebtedness to Laurus. The exercise price of these warrants range from $1.20 to $3.18 per share. The selling stockholders are offering the common stock as described under Plan of Distribution.

At November 29, 2005, we had 49,172,079 shares issued and outstanding. The number of shares outstanding does not include (i) the 8,062,577 shares issuable upon the exercise of outstanding warrants and (ii) up to 6,246,231 shares of our common stock that we could issue under our employee stock option plan of which 5,541,015 options are outstanding.

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Use of Proceeds

This Prospectus relates to shares of our common stock that may be offered and sold from time to time by the selling stockholders. This Prospectus also relates to common stock issuable upon the exercise of warrants held by certain selling stockholders. We will not receive any proceeds from the sale of shares of common stock in this offering. We will, however, receive proceeds from the exercise of the warrants, if exercised. The proceeds from the exercise of warrants, if any, will be used for working capital purposes.

Summary Consolidated Financial Information

The following tables present our summary consolidated historical financial information for the periods indicated. You should read this information together with the consolidated financial statements and related notes and the information under Management s Discussion and Analysis of Financial Condition and Results of Operations included elsewhere in this Prospectus. The summary consolidated balance sheet data at December 31, 2004 and 2003 and the summary consolidated statements of operations data for each year ended December 31, 2004, 2003 and 2002 have been derived from our audited consolidated financial statements that are included elsewhere in this Prospectus. The summary consolidated balance sheet data at September 30, 2005 and the summary consolidated statements of operations data for the nine months ended September 30, 2005 and 2004 are derived from our unaudited condensed consolidated financial statements included elsewhere in this Prospectus. The unaudited condensed consolidated financial statements include, in the opinion of management, all adjustments that management considers necessary for the fair presentation of the financial information set forth in those statements. Historical results are not necessarily indicative of the results to be expected in the future. The as adjusted balance sheet data as of September 30, 2005 and the as adjusted statements of operations data for the nine months ended September 30, 2005 and the year ended December 31, 2004 give effect to the 2005 Private Placement and simultaneous repayment of the Laurus Loans as if is such transactions had occurred as of September 30, 2005 for purposes of the balance sheet data and as of January 1, 2004 for purposes of the statement of operations data. Such amounts have been derived from our as adjusted unaudited condensed consolidated financial statements that are not included in this Prospectus. For a detailed description of the related adjustments refer to Capitalization Table on page 14. Dollar amounts, except per share data, are presented in thousands.

	Nine Months Ended September 30,			Year Ended December 31,			
	2005	2005	2004	2004	2004	2003	2002
		As Adjusted			As Adjusted		
Statement of Operations Data:							
Net sales	$ 23,711	$ 23,711	$ 25,834	$ 33,789	$ 33,789	$ 33,866	$ 37,554
Cost of good sold	13,609	13,609	18,484	24,596	24,596	24,315	19,569
Gross profit	10,102	10,102	7,350	9,193	9,193	9,551	17,985
Selling, general and administrative	10,023	10,023	12,866	17,499	17,499	17,324	24,199
Research and development	1,696	1,696	5,344	6,685	6,685	9,305	12,201
Restructuring charges [1]				3,570	3,570	738	3,282
Impairment charges [2]	247	247	11,964	11,965	11,965	4,772	
Gain on sale of facility [3]				(1,466)	(1,466)		
Gain on sale of product line							
Operating expenses	11,966	11,966	30,174	38,253	38,253	32,139	39,682
Other income (expense) [4]	(1,888)	(611)	(4,704)	(5,406)	(239)	(305)	437
Loss before income taxes	(3,752)	(2,475)	(27,528)	(34,466)	(29,299)	(22,893)	(21,260)

Income tax (benefit) expense	27	27	(94)	(94)	(94)	65	105
Net loss	$ (3,779)	$ (2,502)	$ (27,434)	$ (34,372)	$ (29,205)	$ (22,958)	$ (21,365)
Basic and diluted loss per share	$ (0.12)	$ (0.05)	$ (0.95)	$ (1.19)	$ (0.66)	$ (0.94)	$ (0.91)
Basic and diluted weighted average shares outstanding	32,837	47,763	28,951	29,066	43,992	24,484	23,583

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	As of September 30, 2005		As of December 31,	
	Actual	As Adjusted	2004	2003
Balance Sheet Data:				
Total assets [5]	$ 31,789	$ 37,163	$ 37,458	$ 57,306
Borrowings under credit line	6,935		6,514	2,142
Current portion of long-term debt	675		825	1,693
Long-term debt, less current portion	1,226		2,199	
Total stockholders equity	15,577	29,220	16,535	45,058

(1) Restructuring plans were implemented in 2002 and 2004 to reduce and align our expenses with current business prospects. The plans included employee terminations, office closures, termination of collaborations and write-offs of abandoned intellectual property. As a result, restructuring charges were recorded and are included in operating expenses. See Note N to the accompanying consolidated financial statements.

(2) Impairment charges relate primarily to the impairment of goodwill, and in 2004, also include a charge of $2,100 related to the impairment of property and equipment. See Note C to the accompanying consolidated financial statements.

(3) Gain on sale of facility relates to the sale of our specialty olignucleotide manufacturing facility in Boulder, Colorado during the fourth quarter of 2004. See note M to the accompanying consolidated financial statements.

(4) Other income (expense) for all years presented primarily includes interest expense and in 2004 it includes a loss on debt extinguishment of $2,859 resulting from certain modifications to our Laurus Loans that were treated as extinguishments for financial reporting purposes. See Note E to the accompanying consolidated financial statements.

(5) The reduction in total assets from December 31, 2003 to December 31, 2004 related primarily to impairment charges of $11,965 in our Nucleic Acids operating segment (see Notes C and K to the accompanying consolidated financial statements) and the sale of our specialty oligonucleotide manufacturing facility in Boulder, Colorado (see Note M to the accompanying consolidated financial statements). The reduction in total assets from December 31, 2002 to December 31, 2003 related primarily to operating losses that were funded by reductions in cash and cash equivalents and short term investments.

General Information

We were incorporated in Delaware on March 6, 1997. Our principal office is located at 12325 Emmet Street, Omaha, Nebraska 68164 (telephone: 402-452-5400). We maintain manufacturing facilities in Omaha, Nebraska, San Jose, California, Glasgow, Scotland and Cramlington, England. We maintain research and development offices in Gaithersburg, Maryland and Omaha, Nebraska.

We make reports filed by us with the SEC available free of charge on our website as soon as reasonably practicable after these reports are filed. The address of our website is www.transgenomic.com. Information on our website, including any SEC report, is not part of this Prospectus and you should not rely on it in deciding whether to invest in our common stock.

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RISK FACTORS

An investment in our common stock involves a number of risks. Before making an investment decision, you should carefully consider all of the risks and other information described in this Prospectus. The risks discussed in this Prospectus could materially adversely affect our business, financial condition and results of operations and cause the trading price of our common stock to decline significantly. If this occurs, you may lose all or part of your investment.

Risks Relating to Our Business

We may not have adequate financial resources to execute our business plan.

At October 31, 2005, we had cash and cash equivalents and short-term investment of $6.68 million. While we believe that existing sources of liquidity are sufficient to meet expected cash needs through 2006, we have experienced recurring net losses and have an accumulated deficit totaling $110.88 million at September 30, 2005 and have historically relied upon cash flows from investing and financing activities to offset significant cash outflows from operating activities. To the extent necessary, we believe that we can manage costs and expenses at reduced levels to conserve working capital. The need for any such cost and expense reductions would likely delay implementation of our business plan. Ultimately, we must achieve sufficient revenues in order to generate positive net earnings and cash flows from operations. However, we cannot assure you that we will be able to increase our revenues.

We have a history of operating losses and may incur losses in the future.

We have experienced losses from operations since inception of our operations. Our loss from operations for the years ended December 31, 2004, 2003 and 2002 were $29.06 million, $22.59 million and $21.70 million, respectively, and for the first nine months of 2005 were $1.86 million. These losses have been due principally to the high levels of research and development expenses and sales and marketing expenses that we have incurred in order to develop and market our products, restructuring charges and impairment charges. In addition, markets for our products have developed more slowly than expected in many cases and may continue to do so. As a result, we may incur operating losses in the future.

Markets for our products and services may develop slowly.

There are many factors that affect the market demand for our products and services that we cannot control. This is especially true in our Nucleic Acids operating segment where the demand for our products depends to a large degree on the success that our customers and potential customers have in developing useful pharmaceutical products based on genetic intervention. A central strategy for our Nucleic Acids operating segment is to sell synthetic nucleic acid products to biopharmaceutical and pharmaceutical companies that are seeking to develop commercially viable genomic-based diagnostic and therapeutic products. We have invested a significant amount of capital into acquiring and developing manufacturing facilities and other assets to allow us to pursue this market. However, this is a new field of commercial development, and many of these biopharmaceutical and pharmaceutical companies are in the early stages of their efforts to develop genomic-based diagnostics and therapeutics and have encountered difficulties in these efforts. As a result, the demand for our synthetic nucleic acid products is difficult to forecast and may develop slowly or sporadically. In addition, we cannot assure you that these companies will not internally develop the chemistries and manufacturing capabilities to produce the products they could buy from us. Demand for our WAVE System is similarly affected by the needs and budgetary resources of research institutions, universities, hospitals and others who use the WAVE System for genetic-variation

research. The WAVE System represents a significant expenditure by these types of

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customers and often requires a long sales cycle. If revenues from the sales of our products and services continue at current levels, we may need to take steps to further reduce operating expenses or raise additional working capital. We cannot assure you that sales will increase or that we will be able to reduce operating expenses or raise additional working capital.

Two customers account for a significant portion of sales in our BioSystems and Nucleic Acids operating segments.

During nine months ended September 30, 2005, sales to Geron Corporation (Geron) totaled $1.73 million and represented 54%, of net sales within our Nucleic Acids operating segment and 7% of our total consolidated net sales. During the year ended December 31, 2004, sales to Geron Corporation totaled $4.15 million and represented 49% of total net sales within our Nucleic Acids operating segment and 12% of total consolidated net sales. Sales to Geron are governed by a supply agreement that does not require Geron to purchase any minimum quantity of our products. Accordingly, the amount of nucleic acid products we sell to Geron is subject to change. Revenues from our Nucleic Acids operating segment business would be substantially reduced if Geron s need for our products declined or if it decided to obtain these products from other suppliers.

During the nine months ended September 30, 2005, sales to a large pharmaceutical company totaled $2.0 million and represented 10% of net sales within our BioSystems operating segment and 9% of our total consolidated net sales. During the year ended December 31, 2004, sales to this customer totaled $1.66 million and represented 7% of total net sales within our BioSystems operating segment and 5% of total consolidated net sales. Sales to this customer are governed by a non-binding master services agreement that does not require the customer to purchase any minimum quantity of our services. Accordingly, the amount of sales to this customer is subject to change.

Customer clinical trials may be delayed or discontinued.

A significant percentage of our Nucleic Acids operating segment and discovery services revenues are generated by sales to customers involved in drug development. Our products and services are generally used by these customers in the manufacture of drug candidates in varying stages of clinical trials. If these clinical trials are delayed or cancelled or are otherwise not successful, this could have a significant impact on revenues we generate from the sales of these products.

The sale of our products and business operations in international markets subjects us to additional risks.

During the last three fiscal years, our international sales have been approximately 55-65% of our net sales. As a result, a major portion of our revenues and expenses are subject to risks associated with international sales and operations. These risks include:

- payment cycles in foreign markets are typically longer than in the U.S., and capital spending budgets for research agencies can vary over time with foreign governments;

- changes in foreign currency exchange rates can make our products more costly and operating expenses higher in local currencies since our foreign sales and operating expenses are typically paid for in U.S. Dollars, British Pounds or the Euro; and

the potential for changes in U.S. and foreign laws or regulations that result in additional import or export restrictions, higher tariffs or other taxes, more burdensome licensing requirements or similar impediments to our ability to sell products and services profitably in these markets.

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Our WAVE System includes hardware components and instrumentation manufactured by a single supplier and if we are no longer able to obtain these components and instrumentation our ability to manufacture our products could be impaired.

We rely on a single supplier, Hitachi High Technologies America, to provide the basic instrument used in our WAVE Systems. While other suppliers of instrumentation and computer hardware are available, we believe that our arrangement with Hitachi offers strategic advantages. Hitachi is replacing its current instrument line with a new instrument line. While we presently plan to convert our technology and applications to this new instrument line, such conversion may not be successful and, therefore, we may incur additional costs for the custom manufacturing of the current instrument line. If we were required to seek alternative sources of supply, it could be time consuming or expensive or require significant and costly modification of our WAVE System. Also, if we were unable to obtain instruments from Hitachi in sufficient quantities or in a timely manner, our ability to manufacture our products could be impaired, which could limit our future revenues.

We may not have adequate personnel to execute our business plan.

In order to reduce our operating costs, we have significantly reduced the number of employees, including reductions in our research and development staff and our sales and marketing personnel. In addition, we may lose other key management, scientific, technical, sales and manufacturing personnel from time to time. It may be very difficult to replace personnel if they are needed in the future, and the loss of key personnel could harm our business and operating results. We cannot assure you that our employee reductions will not impair our ability to continue to develop new products and refine existing products in order to remain competitive. In addition, these reductions could prevent us from successfully marketing our products and developing our customer base.

Our markets are very competitive.

As described above, we compete with many other companies in both our Biosystems and Nucleic Acids operating segments. Many of these competing companies have greater resources than we do or may enjoy other competitive advantages. This may allow them to more effectively market their products to our customers or potential customers, to develop products that make our products obsolete or to produce and sell products less expensively than us. As a result of these competitive factors, demand for and pricing of our products and services could be negatively affected.

Our patents may not protect us from others using our technology that could harm our business and competitive position.

Patent law relating to the scope of claims in the technology fields in which we operate is still evolving. The degree of future protection for our proprietary rights is uncertain. Furthermore, we cannot be certain that others will not independently develop similar or alternative products or technology, duplicate any of our products, or, if patents are issued to us, design around the patented products developed by us. Our patents or licenses could be challenged by litigation and, if the outcome of such litigation were adverse to us, our competitors could be free to use our technology. We may not be able to obtain additional patents for our technology, or if we are able to do so, patents may not provide us with substantial protection or be commercially beneficial. In addition, we could incur substantial costs in litigation if we are required to defend ourselves in patent suits brought by third parties or if we initiate such suits.

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We cannot be certain that other measures taken to protect our intellectual property will be effective.

We rely upon trade secret protection, copyright and trademark laws, non-disclosure agreements and other contractual provisions for some of our confidential and proprietary information that is not subject matter for which patent protection is being sought. Such measures, however, may not provide adequate protection for our trade secrets or other proprietary information. If such measures do not protect our rights, third parties could use our technology and our ability to compete in the market would be reduced.

We are dependent upon our licensed technologies and may need to obtain additional licenses in the future to offer our products and remain competitive.

We have licensed key components of our technologies from third parties. If these agreements were to terminate prematurely due to our breach of the terms of these licenses or we otherwise fail to maintain our rights to such technology, we may lose the right to manufacture or sell a substantial portion of our products. In addition, we may need to obtain licenses to additional technologies in the future in order to keep our products competitive. If we fail to license or otherwise acquire necessary technologies, we may not be able to develop new products that we need to remain competitive.

The patent underlying our nonexclusive license to manufacture standard nucleic acid building blocks expired as of March 15, 2005. The expiration of this patent could result in additional manufacturers entering the market for these products. Some of these manufacturers may have lower cost structures or other competitive advantages which may reduce our market share and/or our operating margins related to these products.

The protection of intellectual property in foreign countries is uncertain.

A significant percentage of our sales are to customers located outside the U.S. The patent and other intellectual property laws of some foreign countries may not protect our intellectual property rights to the same extent as U.S. laws. We may need to bring proceedings to defend our patent rights or to determine the validity of our competitors foreign patents. These proceedings could result in substantial cost and diversion of our efforts. Finally, some of our patent protection in the U.S. is not available to us in foreign countries due to the laws of those countries.

Our products could infringe on the intellectual property rights of others.

There are a significant number of U.S. and foreign patents and patent applications submitted for technologies in, or related to, our area of business. As a result, any application or exploitation of our technology could infringe patents or proprietary rights of others and any licenses that we might need as a result of such infringement might not be available to us on commercially reasonable terms, if at all. This may lead others to assert patent infringement or other intellectual property claims against us.

Our failure to comply with any applicable government regulations or otherwise respond to claims relating to improper handling, storage or disposal of hazardous chemicals that we use may adversely affect our results of operations.

Our research and development and manufacturing activities involve the controlled use of hazardous materials and chemicals. We are subject to federal, state, local and international laws and regulations governing the use, storage, handling and disposal of hazardous materials and waste products. If we fail to comply with applicable laws or regulations, we could be required to pay penalties or be held liable for any damages that result and this liability could exceed our financial resources. We cannot

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assure you that accidental contamination or injury will not occur. Any such accident could damage our research and manufacturing facilities and operations, resulting in delays and increased costs.

Risks Relating To This Offering and Ownership of Our Common Stock

The price for our common stock is volatile and may drop.

The trading price for our common stock has fluctuated significantly over recent years. The volatility in the price of our stock is attributable to a number of factors, not all of which relate to our operating results and financial position. Nevertheless, continued volatility in the market price for our stock should be expected and we cannot assure you that the price of our stock will not decrease in the future. Fluctuations or further declines in the price of our stock may affect our ability to sell shares of our stock and to raise capital through future equity financing.

If we are unable to maintain our Nasdaq listing, your ability to trade shares of our common stock could suffer.

In order for our common stock to remain listed on the Nasdaq National Market (Nasdaq), we must meet the minimum listing requirements for continued listing, including, among other requirements, minimum bid price and market value of public float requirements. If our common stock is delisted from the Nasdaq, transactions in our common stock would likely be conducted only in the over-the counter market, or potentially on regional exchanges, which could negatively impact the trading volume and price of our common stock, and investors may find it more difficult to purchase or dispose of, or to obtain accurate quotations as to the market value of, our common stock. In addition, if our common stock were not listed on the Nasdaq and the trading price of our common stock remains below $5.00 per share, trading in our common stock would also be subject to certain rules that require additional disclosures by broker-dealers in connection with any trades involving a penny stock. In such event, the additional burdens imposed on broker-dealers to effect transactions in our common stock could further limit the market liquidity of our common stock and the ability of investors to trade our common stock.

We may issue a substantial amount of our common stock to holders of options and warrants and this could reduce the market price for our stock.

We also had obligations to issue 13,603,592 shares of common stock under outstanding stock options and warrants. The issuance of these additional shares of common stock may be dilutive to our current shareholders and could negatively impact the market price of our common stock.

Sales of substantial amounts of our common stock in the public market could adversely affect the market price of our common stock.

At November 29, 2005, we have 49,172,079 shares of common stock outstanding. All but 13,972,384 shares held by affiliates of the Company are freely tradable without restriction or further registration under the Securities Act. Shares held by affiliates may also be sold subject only to the requirements of Rule 144 under the Securities Act. The sale of these shares in the public markets has potential to cause significant downward pressure on the price of our common stock. This is particularly the case if the shares being placed into the market exceed the market s ability to

absorb the stock. Such an event could place further downward pressure on the price of our common stock. This presents an opportunity for short sellers to contribute to the further decline of our stock price. If there are significant short sales of our stock, the price decline that would result from this activity will cause the share price to decline more so, which, in turn, may cause long holders of the stock to sell their shares thereby contributing to sales of stock in the market.

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The price you pay for shares offered by the selling stockholders may be higher than the prices paid by other people acquiring such shares.

Selling stockholders may sell shares under this Prospectus from time to time either at prices then prevailing in the market or at other prices they negotiate with buyers. Accordingly, the price you pay for shares of our common stock you purchase from a selling stockholder may be higher than the prices paid by other people acquiring such shares.

USE OF PROCEEDS

We will not receive additional proceeds from the sale of the Shares offered by this Prospectus. However, we have already received net proceeds (after transaction costs of $1.18 million) of $13.90 million in conjunction with the 2005 Private Placement. These proceeds were partially used to repay all outstanding principal and accrued interest on our Laurus Loans including fees to facilitate the private placement and prepayment penalties to Laurus in the sum of $0.82 million. The remaining proceeds of $5.35 million will be used for future working capital needs. We also received proceeds of $2.05 million in conjunction with the private placement that we closed in the fourth quarter of 2003. Additionally, we may receive approximately $10.49 million upon the exercise of warrants for the remaining 8,062,577 Shares that may be offered hereby. The net proceeds we receive from any exercise of these warrants, if any, will be used by us primarily for working capital purposes.

PRICE RANGE OF COMMON STOCK AND DIVIDEND POLICY

Our common stock is listed for trading on the Nasdaq under the symbol TBIO. The following table sets forth the high and low closing prices for our common stock during each of the quarters of 2003 and 2004 and through November 29, 2005

	High	Low
Year Ended December 31, 2003		
First Quarter	$ 4.22	$ 1.40
Second Quarter	$ 2.43	$ 0.93
Third Quarter	$ 2.14	$ 1.03
Fourth Quarter	$ 2.98	$ 1.45
Year Ended December 31, 2004		
First Quarter	$ 3.23	$ 1.96
Second Quarter	$ 1.87	$ 1.24
Third Quarter	$ 1.58	$ 1.07
Fourth Quarter	$ 1.52	$ 1.06
Year Ending December 31, 2005		
First Quarter	$ 1.11	$ 0.53
Second Quarter	$ 0.90	$ 0.45
Third Quarter	$ 1.24	$ 0.70
Fourth Quarter (through November 29, 2005)	$ 1.02	$ 0.80

At November 29, 2005, there are 49,172,079 shares of our common stock outstanding and approximately 3,475 holders of record.

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We have never declared or paid any cash dividends on our common stock and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. We expect to retain all earnings, if any, for investment in our business. Dividends on our common stock will be paid only if and when declared by our Board of Directors. The Board s ability to declare a dividend is subject to limits imposed by Delaware corporate law. In determining whether to declare dividends, the Board may consider our financial condition, results of operations, working capital requirements, future prospects and other relevant factors.

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SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read 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. The selected consolidated balance sheet data at December 31, 2004 and 2003 and the selected consolidated statements of operations data for each year ended December 31, 2004, 2003 and 2002 have been derived from our audited consolidated financial statements that are included elsewhere in this Prospectus. The selected consolidated balance sheet data at December 31, 2002, 2001 and 2000 and the selected consolidated statements of operations data for each year ended December 31, 2001 and 2000 have been derived from our audited consolidated financial statements that are not included in this Prospectus. The selected consolidated balance sheet data at September 30, 2005 and the selected consolidated statements of operations data for the nine months ended September 30, 2005 and 2004 are derived from our unaudited condensed consolidated financial statements included in this Prospectus. The unaudited condensed consolidated financial statements include, in the opinion of management, all adjustments that management considers necessary for the fair presentation of the financial information set forth in those statements. Historical results are not necessarily indicative of the results to be expected in the future. Dollar amounts, except per share data, are presented in thousands.

	Nine Months Ended September 30,		Year Ended December 31,				
	2005	2004	2004	2003	2002	2001[1]	2000[1]
Statement of Operations Data:							
Net sales	$ 23,711	$ 25,834	$ 33,789	$ 33,866	$ 37,554	$ 38,467	$ 25,883
Cost of good sold	13,609	18,484	24,596	24,315	19,569	17,198	12,800
Gross profit	10,102	7,350	9,193	9,551	17,985	21,269	13,083
Selling, general and administrative	10,023	12,866	17,499	17,324	24,199	21,636	14,908
Research and development	1,696	5,344	6,685	9,305	12,201	9,372	7,652
Restructuring charges [2]			3,570	738	3,282		
Impairment charges [3]	247	11,964	11,965	4,772			
Gain on sale of facility [4]			(1,466)				
Gain on sale of product line							(784)
Operating expenses	11,966	30,174	38,253	32,139	39,682	31,008	21,776
Other income (expense) [5]	(1,888)	(4,704)	(5,406)	(305)	437	2,362	212
Loss before income taxes	(3,752)	(27,528)	(34,466)	(22,893)	(21,260)	(7,377)	(8,481)
Income tax (benefit) expense	27	(94)	(94)	65	105	24	180
Net loss	$ (3,779)	$ (27,434)	$ (34,372)	$ (22,958)	$ (21,365)	$ (7,401)	$ (8,661)
Basic and diluted loss per share	$ (0.12)	$ (0.95)	$ (1.19)	$ (0.94)	$ (0.91)	$ (0.33)	$ (0.52)
Basic and diluted weighted average shares outstanding	32,837	28,951	29,066	24,484	23,583	22,560	16,630

	As of September 30,	As of December 31,				
	2005	2004	2003	2002	2001	2000
Balance Sheet Data:						

Total assets [6]	$ 31,789	$ 37,458	$ 57,306	$ 74,035	$ 89,286	$ 77,863
Borrowings under credit line	6,935	6,514	2,142			
Current portion of long-term debt	675	825	1,693	63		
Long-term debt, less current portion	1,226	2,199		1,499		
Total stockholders equity	15,577	16,535	45,058	61,515	82,104	73,966

(1) In May 2001, we acquired Annovis, Inc., a specialty chemicals company that develops, manufactures and markets a wide variety of nucleic acid-based products and services for the life science industry, for a total purchase price of approximately $16,910. Annovis results of operations have been included in the accompanying financial statements beginning on May 1, 2001. Additionally, our consolidated financial statements include the results from our non-life sciences product line which was sold effective April 1, 2000.

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(2) Restructuring plans were implemented in 2002 and 2004 to reduce and align our expenses with current business prospects. The plans included employee terminations, office closures, termination of collaborations and write-offs of abandoned intellectual property. As a result, restructuring charges were recorded and are included in operating expenses. See Note N to the accompanying consolidated financial statements.

(3) Impairment charges relate primarily to the impairment of goodwill, and in 2004, also include a charge of $2,100 related to the impairment of property and equipment. See Note C to the accompanying consolidated financial statements.

(4) Gain on sale of facility relates to the sale of our specialty olignucleotide manufacturing facility in Boulder, Colorado during the fourth quarter of 2004. See note M to the accompanying consolidated financial statements.

(5) Other income (expense) for all years presented primarily includes interest expense and in 2004 it includes a loss on debt extinguishment of $2,859 resulting from certain modifications to our Laurus Loans that were treated as extinguishments for financial reporting purposes. See Note E to the accompanying consolidated financial statements.

(6) The reduction in total assets from December 31, 2003 to December 31, 2004 related primarily to impairment charges of $11,965 in our Nucleic Acids operating segment (see Notes C and K to the accompanying consolidated financial statements) and the sale of our specialty oligonucleotide manufacturing facility in Boulder, Colorado (see Note M to the accompanying consolidated financial statements). The reduction in total assets from December 31, 2002 to December 31, 2003 related primarily to operating losses that were funded by reductions in cash and cash equivalents and short term investments.

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CAPITALIZATION

The following table reflects our capitalization as of September 30, 2005 on an actual and as adjusted basis as if the 2005 Private Placement and simultaneous repayment of the Laurus Loans had occurred on September 30, 2005.

	As of September 30,	
	Actual	As Adjusted
Credit Line [1]	$ 6,935	$
Current portion of Term Note [1]	675	
Term Note, less current portion [1]	1,226	
Stockholders equity:		
Preferred stock, $0.01 par value, 15,000,000 shares authorized, none outstanding		
Common stock, $0.01 par value, 60,000,000 shares authorized, 34,246,336 and 49,172,079 shares outstanding, respectively [2]	348	497
Additional paid-in capital [1] [2]	125,058	138,803
Accumulated other comprehensive income	1,051	1,051
Accumulated deficit [3]	(110,880)	(111,131)
Total stockholders equity	15,577	29,220
Total capitalization	$ 24,413	$ 29,220

(1) Net proceeds from the 2005 Private Placement (after transaction costs of $1,180) totaled $13,895 and were used in part to prepay all indebtedness and prepayment fees to Laurus. The remaining proceeds will be used for the future working capital needs of the Company. Transaction costs included fees to Oppenheimer of $1,055 and other transaction specific costs of approximately $125.

(2) Subsequent to September 30, 2005, we issued 14,925,743 shares in conjunction with the 2005 Private Placement. At November 29, 2005, we have 13,603,592 potentially dilutive securities consisting of 5,541,015 options issued under our stock option plan and warrants representing 8,062,577 shares.

(3) The as-adjusted presentation assumes that net premiums related to the Laurus Loans totaling $573 at September 30, 2005 will result in a gain upon prepayment of these loans. This gain will be offset by fees to Laurus of $500 to facilitate the private placement and prepayment penalties of $324.

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MANAGEMENT S DISCUSSION AND ANALYSIS OF

FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of our financial condition and results of operations should be read together with our consolidated financial statements, unaudited condensed consolidated financial statements and related notes included elsewhere in this Prospectus. This discussion contains forward-looking statements based upon current expectations that involve risks, uncertainties and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under Risk Factors, Information Regarding Forward-Looking Statements and elsewhere in this Prospectus.

The following discussion also gives effect to the restatement of our statements of cash flows for the years ended December 31, 2004 and 2003, as discussed in Note P to the consolidated financial statements for the years ended December 31, 2004, 2003 and 2002.

Overview

The Company develops, manufactures and sells innovative products for the analysis, synthesis and purification of nucleic acids through two operating segments, BioSystems and Nucleic Acids.

The BioSystems operating segment develops, assembles, manufactures and markets versatile products and provides analytical services to the medical research, clinical and pharmaceutical markets for use in genetic variation analysis. Net sales from this operating segment are categorized as bioinstruments, bioconsumables and discovery services.

Bioinstruments. The flagship product of the BioSystems operating segment is the WAVE system which has broad applicability to genetic variation detection in both molecular genetic research and molecular diagnostics. There was a world-wide installed base of 1,269 WAVE systems as of September 30, 2005. Additionally, this operating segment utilizes its sales and distribution network to sell a number of independent, third party equipment platforms. Service contracts to maintain installed systems are sold and supported by technical support personnel.

Bioconsumables. The installed WAVE base generates a demand for consumables that are required for the system s continued operation. These products are developed, manufactured and sold by this operating segment. In addition, the BioSystems operating segment manufactures and sells consumable products that can be used on multiple, independent platforms. These products include SURVEYOR Nuclease and a range of HPLC separation columns.

Discovery Services. The BioSystems operating segment provides various genetic laboratory services through a contract research lab in Gaithersburg, Maryland and a second laboratory in Omaha, Nebraska that operates in a Good Laboratory Practices (GLP) compliant environment and is certified under the Clinical Laboratory Improvement Amendment. The services provided primarily include (1) genomic biomarker analysis services to pharmaceutical and biopharmaceutical companies to support preclinical and clinical development of targeted therapeutics; and (2) molecular-based testing for hematology, oncology and certain inherited diseases for physicians and third-party laboratories.

The Nucleic Acids operating segment develops, manufactures and markets chemical building blocks for nucleic acid synthesis to biotechnology, pharmaceutical and oligonucleotide synthesis companies and research institutions throughout the world. These products are produced primarily in this operating segment s only facility, in Glasgow, Scotland. Prior to November 11, 2004, this operating

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segment also manufactured synthesized segments of nucleic acids (known as oligonucleotides) in a facility in Boulder, Colorado. On November 11, 2004, the assets associated with this facility were sold to an unaffiliated third party. As a result, the Nucleic Acids operating segment no longer manufactures and sells these specialized oligonucleotides.

Results of Operations

Nine Months Ended September 30, 2005 and 2004

Dollars in thousands	2005	2004	Change	% Change
Net Sales				
Bioinstruments	$ 11,343	$ 10,766	$ 577	5%
Bioconsumables	6,977	6,286	691	11%
Discovery Services	2,159	1,398	761	54%
Total BioSystems Business Unit	20,479	18,450	2,029	11%
Chemical Building Blocks	3,232	5,588	(2,356)	(42)%
Specialty Oligonucleotides and Services		1,796	(1,796)	(100)%
Total Synthetic Nucleic Acids Business Unit	3,232	7,384	(4,152)	(56)%
Total Net Sales	23,711	25,834	(2,123)	(8)%
Cost of Goods Sold				
Bioinstruments	5,396	4,401	995	23%
Bioconsumables	3,334	2,981	353	12%
Discovery Services	1,744	1,041	703	68%
Total BioSystems Business Unit	10,474	8,423	2,051	24%
Chemical Building Blocks	3,135	5,452	(2,317)	(43)%
Specialty Oligonucleotides and Services		4,609	(4,609)	(100)%
Total Synthetic Nucleic Acids Business Unit	3,135	10,061	(6,926)	69%
Total Cost of Goods Sold	13,609	18,484	(4,875)	(26)%
Selling, General and Administrative Expenses	10,023	12,866	(2,843)	(22)%
Research and Development Expenses	1,696	5,344	(3,648)	(68)%
Impairment Charges	247	11,964	(11,717)	(98)%
Other Income (Expense)	(1,888)	(4,704)	(2,816)	(60)%

Net Sales. Net sales for the nine months ended September 30, 2005 decreased $2.12 million or 8% from the same period of 2004 as a result of a $4.15 million or 56% decrease in net sales from our Nucleic Acids operating segment offset by a $2.03 million or 11% increase in net sales in our BioSystems operating segment.

The increase in net sales in our BioSystems operating segment resulted from an increase of $0.58 million or 5% from bioinstruments, $0.69 million or 11% from bioconsumables, and $0.76 million or 54% from discovery services. WAVE Systems sold totaled 76 during the nine months ended September 30, 2005 compared to 85 during the same period of 2004. The selling prices of our instruments vary based on the specific model and optional accessories. We had an installed base of approximately 1,269 units at September 30, 2005 compared to 1,193 units at December 31, 2004. The increase in the installed base of instruments continues to drive increases in sales of bioconsumables used with these instruments. The increase in discovery services revenue during 2005 was primarily attributable to the discovery services agreements that we entered into with a large pharmaceutical company to support their clinical development of oncology therapeutics. During the nine months ended September 30, 2005, discovery services sales to this customer totaled $2.01 million and represented 10% of net sales within the BioSystems operating segment and 9% of total consolidated net sales. We have no long-term agreement

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with customer; therefore, sales will fluctuate and may be zero. Future revenues from our BioSystems operating segment would be substantially reduced if this customer s need for our products declined.

Nucleic Acids operating segment sales decreased by $4.15 million or 56% during the nine months ended September 30, 2005 compared to the same period of 2004 as a result of fewer chemical building block sales to Geron and the sale of our specialty oligonucleotides facility in Boulder, Colorado. Net sales to Geron during the nine months ended September 30, 2005 totaled $1.73 million compared to $3.59 million during the same period of 2004. Net sales to Geron during the nine months ended September 30, 2005 represented 54% of net sales in our Nucleic Acids operating segment and 7% of total consolidated net sales. Net sales to Geron during the nine months ended September 30, 2004, represented 49% of net sales within our Nucleic Acids operating segment and 14% of total consolidated net sales. We have no long-term agreement with Geron; therefore, sales will fluctuate and may be zero. Future revenue from our Nucleic Acids operating segment would be substantially reduced if Geron s need for our products declined. As a result of the sale of our facility in Boulder, Colorado, net sales of specialty oligonucleotides decreased by $1.80 million. We no longer manufacture or sell oligonucleotides.

Costs of Goods Sold. Costs of goods sold include material costs for the products that we sell and substantially all other costs associated with our manufacturing facilities (primarily personnel costs, rent and depreciation). It also includes direct costs (primarily personnel costs and supplies) associated with our Discovery Services operations. Depreciation expense included in costs of goods sold totaled $2.23 million and $2.22 million during the nine months ended September 30, 2005 and 2004, respectively.

Costs of goods sold during the nine months ended September 30, 2005 decreased $4.88 million or 26% from the same period of 2004 as a result of a $6.93 million or 69% decrease in our Nucleic Acids operating segment offset by a $2.05 million or 24% increase in our BioSystems operating segment. The overall decrease was primarily attributable to the sale of our oligonucleotide facility and from termination of associated personnel and the elimination of facilities related costs in conjunction with our 2004 Restructuring Plan.

Gross profit was $10.10 million or 43% of total net sales during the nine months ended September 30, 2005 compared to $7.35 million and 28% during the same period of 2004. A summary of gross profit by operating segment follows (dollars in thousands):

	Nine Months Ended September 30,			
	2005		2004	
	Gross Profit	Percent of Revenue	Gross Profit/(Loss)	Percent of Revenue
BioSystems operating segment	$ 10,005	49%	$ 10,027	54%
Nucleic Acids operating segment	97	3%	(2,677)	(36)%
	$ 10,102	43%	$ 7,350	28%

The decrease in BioSystems operating segment gross profit as a percent of revenue to 49% from 54% for the nine months ended September 30, 2005 and 2004, respectively, is largely attributable to changes in the composition of products sold. Generally, sales of WAVEs and ancillary instrumentation generate higher gross profits than sales of third party platforms. Sales of specialty consumables (SURVEYOR Nuclease, HPLC separation columns, etc.) generate higher gross profits than base buffers and enzymes. Gross profits from discovery services have been less than

expected due to the continuing build out of capacity and expansion of product offerings. Our Nucleic Acids operating segment continues to have excess capacity in its Glasgow, Scotland manufacturing facility that will adversely impact costs of goods sold and gross profit until demand for our Nucleic Acids building block products increase.

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Selling, General and Administrative Expenses. Selling, general and administrative expenses primarily include personnel costs, marketing, travel and entertainment costs, professional fees, and facility costs. These costs totaled $10.02 million during the nine months ended September 30, 2005 compared to $12.87 million during the same period of 2004, a decrease of $2.85 million or 22%. As a percentage of revenue, selling, general and administrative expenses totaled 42% and 50% during the nine months ended September 30, 2005 and 2004, respectively. This decrease resulted primarily from termination of associated personnel and the elimination of facilities related costs in conjunction with the 2004 Restructuring Plan. Foreign currency transaction adjustments increased operating expenses by approximately $0.24 million during the nine months ended September 30, 2005 compared to the same period of 2004 when foreign currency transaction adjustments reduced operating expenses by approximately $0.14 million. Depreciation expense included in selling, general and administrative expenses totaled $0.50 million and $0.74 million during the nine months ended September 30, 2004 and 2004, respectively.

Research and Development Expenses. Research and development expenses primarily include personnel costs, supplies, and facility costs. These costs totaled $1.70 million during the nine months ended September 30, 2005 compared to $5.34 million during the same period of 2004, a decrease of $3.65 million or 68%. The decrease related primarily to the 2004 Restructuring Plan, which resulted in the elimination of substantially all research and development efforts associated with our Nucleic Acids operating segment. Depreciation expense included in research and development expenses included $0.42 million and $0.75 million during the nine months ended September 30, 2005 and 2004, respectively.

As a percentage of revenue, research and development expenses totaled 7% and 21% of revenue during the nine months ended September 30, 2005 and 2004, respectively. We expect to continue to invest up to 10% of our revenues in research and development activities primarily associated with our BioSystems operating segment. Research and development costs are expensed in the year in which they are incurred.

Impairment Charges. During the nine months ended September 30, 2005, we determined that certain international patent pursuits were no longer consistent with our strategic plan. Accordingly, we recorded an impairment charge of $0.25 million related to the abandonment of such pursuits.

During the second quarter of 2004, our Board of Directors directed us to explore strategic alternatives for the Nucleic Acids operating segment. The process included significant due diligence by us, our advisors and prospective independent buyers and other interested parties. Based upon information obtained through this process, we determined that it was more likely than not that the value of the assets associated with this business was impaired. We engaged an external valuation firm to assist us in conducting an interim period impairment test that resulted in us recording a non-cash charge of $11.96 million related to these assets during the nine months ended September 30, 2004. The charge consisted of $9.87 million related to the impairment of goodwill and $2.10 million related to the impairment of property and equipment.

Other Income (Expense). Other expense during the nine months ended September 30, 2005 of $1.89 million consisted of interest expense of $1.92 million and other income of $0.03 million. Other expense during the nine months ended September 30, 2004 consisted of interest expense of $1.68 million, loss on debt extinguishment of $2.86 million and other expense of $0.16 million, which consisted primarily of net investment losses associated with sales of Geron stock.

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Interest expense consisted of the following (in thousands):

	Nine Months Ended September 30,	
	2005	2004
Interest paid or accrued on outstanding debt	$ 477	$ 388
Amortization of debt premiums	(816)	
Amortization of debt discounts warrants	24	
Amortization of debt discount beneficial conversion feature	725	809
Valuation charge associated with March 2005 conversions	1,365	
Other	144	487
	$ 1,919	$ 1,684

The increase in interest paid or accrued on outstanding debt resulted from higher average debt balances and interest rates. Gross debt (before related premiums and discounts) totaled $8.26 million at September 30, 2005 with an interest rate of 8.75% compared to $8.50 million at December 31, 2004 with an interest rate of 7.25%. During the nine months ended September 30, 2005 and 2004, we had average debt of $8.03 million and $7.81 million, respectively. The high and low borrowings under our Credit Line during the nine months ended September 30, 2005 were $6.90 million and $4.75 million, respectively.

On March 18, 2005, the Company agreed to allow Laurus to convert $1.88 million of the outstanding principal balance under the Credit Line into 3,600,000 shares of its common stock at $0.52 per share. In addition, on March 24, 2005 the Company agreed to allow Laurus to convert $0.65 million of the outstanding principal balance of the Term Note into 1,250,000 shares of common stock at $0.52 per share. Laurus agreed to apply this Term Note conversion against substantially all remaining 2005 scheduled principal payments on such loan. The closing market price of the Company s common stock the day before each of these conversions was $0.58 per share. No other provisions of our Credit Line or Term Note were modified, including the $1.00 conversion price for remaining debt. In conjunction with these conversions we accelerated amortization of $0.41 million of related debt premiums and discounts and recorded a charge of $1.37 million related to the fair value of incremental shares received by Laurus.

Loss on debt extinguishment totaled $2.86 million during the nine months ended September 30, 2004. As described in Note E to the accompanying consolidated financial statements, certain August 31, 2004 modifications to our Laurus Loans were treated as extinguishments for financial reporting purposes since the change in present value of expected cash flows between the original and modified agreements was greater than 10%. As such, we recorded a loss on extinguishment of debt of $2.86 million at August 31, 2004 reflecting the difference between (i) the recorded amount of debt, net of related discounts, of $7.43 million and (ii) the fair value of the new debt instrument of $10.29 million plus the fair value of the new warrants of $0.11 million. The difference between the fair value of the new debt of $10.29 million and the face value of the debt of $8.57 million represents a premium, which will be reflected as a reduction of interest expense over the life of the new debt.

Income Tax Expense. Income tax recorded during the nine months ended September 30, 2005 and 2004 related to income taxes in states, foreign countries and other local jurisdictions, offset by refunds received.

Due to the Company s cumulative losses, expected losses in future years and inability to utilize any additional losses as carrybacks, the Company did not provided for an income tax benefit during the nine months ended September 30, 2005 or 2004 based on management s determination that

it was more likely than not that such benefits would not be realized. The Company will continue to assess the recoverability of deferred tax assets and the related valuation allowance. To the extent the Company begins to generate taxable income in future periods and it determines that such valuation allowance is no longer required, the tax benefit of the remaining deferred tax assets will be recognized at such time. As of

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September 30, 2005, the Company s deferred tax assets were offset by a valuation allowance of approximately $41.2 million.

Years Ended December 31, 2004, 2003 and 2002

				Dollar Change		Percent Change	
	2004	2003	2002	2003 to 2004	2002 to 2003	2003 to 2004	2002 to 2003
Net Sales							
Bioinstruments	$ 14,385	$ 17,916	$ 19,098	$ (3,531)	$ (1,182)	(20)%	(6)%
Bioconsumables	8,838	7,260	5,137	1,578	2,123	22%	41%
Discovery Services	2,020	868		1,152	868	133%	
Total BioSystems operating segment	25,243	26,044	24,235	(801)	1,809	(3)%	7%
Chemical Building Blocks	6,488	6,631	13,319	(143)	(6,688)	(2)%	(50)%
Specialty Oligonucleotides	2,058	1,191		867	1,191	73%	
Total Nucleic Acids operating segment	8,546	7,822	13,319	724	(5,497)	9%	(41)%
Total Net Sales	33,789	33,866	37,554	(77)	(3,688)	(1)%	(10)%
Cost of Goods Sold							
Bioinstruments	6,382	7,343	7,650	(961)	(307)	(13)%	(4)%
Bioconsumables	4,012	3,475	2,284	537	1,191	15%	52%
Discovery Services	1,603	557		1,046	557	188%	
Total BioSystems operating segment	11,997	11,375	9,934	622	1,441	5%	15%
Chemical Building Blocks	7,165	6,937	9,635	228	(2,698)	3%	(28)%
Specialty Oligonucleotides	5,434	6,003		(569)	6,003	(9)%	
Total Nucleic Acids operating segment	12,599	12,940	9,635	(341)	3,305	(3)%	34%
Total Cost of Goods Sold	24,596	24,315	19,569	281	4,746	(1)%	24%
Selling, General and Administrative Expenses	17,499	17,324	24,199	175	(6,875)	1%	(28)%
Research and Development Expenses	6,685	9,305	12,201	(2,620)	(2,896)	(28)%	(24)%
Restructuring Charges	3,570	738	3,282	2,832	(2,544)	384%	(78)%
Impairment Charges	11,965	4,772		5,726	4,772	120%	
Gain on sale of facility	1,466			1,466			
Other Income (Expense)	(5,406)	(305)	437	5,102	742	1673%	170%

Net Sales. Net sales during 2004 decreased $0.08 million or 1% from 2003 as a result of a $0.80 million or 3% decrease in sales in our BioSystems operating segment offset by a $0.72 million or 9% increase in sales in our Nucleic Acids operating segment.

The decrease in sales in our BioSystems operating segment resulted from a decrease of $3.58 million or 20% from bioinstruments that was partially offset by increases in sales of bioconsumables of $1.58 million or 22% and Discovery Services of $1.15 million or 133%. The decrease of bioinstrument sales was primarily the result of a decline in the number of WAVE Systems sold from 122 in 2003 to 107 in 2004. The selling prices of our instruments vary based on the specific model and optional accessories. We had an installed base of approximately 1,200 units at December 31, 2004. The increase in the installed base of instruments continues to drive increases in sales of bioconsumables used with these

instruments. The increase in Discovery Services revenue during 2004 was primarily attributable to the discovery services agreements that we entered into with pharmaceutical companies to support their clinical development of oncology therapeutics. We plan to continue to seek opportunities to provide genetic variation discovery and analysis services to pharmaceutical and other customers and believe that these services provide us a significant opportunity to expand revenues in the future.

Nucleic Acids operating segment sales increased by $0.72 million or 9% in 2004 compared to 2003 as a result of a substantial increase in sales of specialty oligonucleotides produced by our facility in

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Boulder, Colorado as raw materials in DNA-based drug candidates. As a result of the sale of this facility in November 2004, we will no longer manufacture or sell oligonucleotides. Sales of our chemical building block products produced in our Glasgow, Scotland facility were essentially the same in 2004 as in 2003. During 2004, sales of chemical building blocks to Geron Corporation totaled $4.15 million and represented 12% of total consolidated net sales, 49% of total net sales within our Nucleic Acids operating segment and 61% of chemical building blocks revenue. We do not have long-term sales commitments from Geron Corporation and, accordingly, the amount we sell them is subject to change. Revenues from our Nucleic Acids operating segment would be substantially reduced if Geron s need for our products declined or if it decided to obtain these products from other suppliers.

Costs of Goods Sold. Costs of goods sold include material costs for the products that we sell and substantially all other costs associated with our manufacturing facilities (primarily personnel costs, rent and depreciation). It also includes direct costs (primarily personnel costs and supplies) associated with our Discovery Services product line. Depreciation expense included in costs of goods sold totaled $2.10 million and $1.74 million in 2004 and 2003, respectively.

Costs of goods sold during 2004 decreased $0.28 million or 1% from 2003 as a result of a $0.62 million or 5% increase in our BioSystems operating segment offset by a $0.34 million or 3% decrease in our Nucleic Acids operating segment. The overall decrease is consistent with the decrease in net sales.

Gross profit was $9.19 million or 27% of total net sales during 2004 compared to $9.55 million and 28% during 2003. A summary of margins by operating segment follows (dollars in thousands):

	2004		2003	
	Dollars	Percent	Dollar	Percent
BioSystems operating segment	$ 13,246	52%	$ 14,669	56%
Nucleic Acids operating segment	(4,053)	(47)%	(5,118)	(65)%
	$ 9,193	27%	$ 9,551	28%

We expect gross profits from our BioSystems operating segment to be within historic ranges of 50% to 60%. As a result of the sale of our Boulder, Colorado facility and the restructuring plan implemented in November 2004, we anticipate that our cost of goods sold will be significantly improved. However, our Nucleic Acids operating segment continues to have excess capacity in its Glasgow, Scotland manufacturing facility that will adversely impact costs of goods sold and margins until demand for our Nucleic Acids building block products increase.

Selling, General and Administrative Expenses. Selling, general and administrative expenses primarily include personnel costs, marketing, travel and entertainment costs, professional fees, and facility costs. These costs totaled $17.50 million in 2004 compared to $17.32 million in 2003, an increase of $0.18 million or 1%. This increase related to a $1.26 million increase in selling expenses offset by a $1.09 million reduction in general and administrative expenses. As a percentage of revenue, selling, general and administrative expenses totaled just over 51% in both 2004 and 2003. Depreciation expense include in selling, general and administrative expenses totaled $1.02 million and $1.28 million in 2004 and 2003, respectively.

Research and Development Expenses. Research and development expenses primarily include personnel costs, supplies, and facility costs. These costs totaled $6.69 million in 2004 compared to $9.31 million in 2003, a decrease of $2.62 million or 28%. As a percentage of revenue, research and development expenses totaled 20% and 27% of revenue in 2004 and 2003, respectively. These decreases related to our focus on expense control, the sale of our Boulder, Colorado facility and the restructuring plan implemented in November 2004. Depreciation expense included in research and development

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expenses included $0.88 million and $0.89 million in 2004 and 2003, respectively. We expect to continue to invest up to 10% of our revenues in research and development activities primarily associated with our BioSystems operating segment. Research and development costs are expensed in the year in which they are incurred.

Restructuring Charges. On November 13, 2004, our Board of Directors approved a restructuring plan designed to refocus on the BioSystems operating segment and to better align the Company s cost structure with anticipated revenues. The plan (which is incremental to the sale of the specialty oligonucleotide manufacturing facility in Boulder, Colorado) included a workforce reduction of approximately 60 positions and the closure of two domestic research and development facilities associated with our Nucleic Acids operating segment and two European field offices. Additionally, we eliminated approximately 10 positions at its chemical building blocks manufacturing facility in Glasgow, Scotland. In conjunction with these changes, we incurred a charge of $3.57 million during the quarter ending December 31, 2004 consisting of severance benefits of $1.41 million, future rents on closed facilities (net of projected sublease rents) of $1.24 million, the write-off of property and equipment specifically attributable to closed facilities of $0.74 million and other costs of $0.18 million. We had accrued expenses associated with this restructuring plan of $1.91 million at December 31, 2004 of which $1.49 million is expect to be paid in 2005.

Impairment Charges. During the second quarter of 2004, our Board of Directors directed us to explore strategic alternatives for the Nucleic Acids operating segment. The process included significant due diligence by us, our advisors and prospective independent buyers and other interested parties. Based upon information obtained through this process, we determined that it was more likely than not that the value of the assets associated with this business were impaired. We engaged an external valuation firm to assist us in conducting an interim period impairment test that resulted in us recording a non-cash charge of $11.97 million related to these assets during the three months ended June 30, 2004. The charge consisted of $9.87 million related to the impairment of goodwill and $2.10 million related to the impairment of property and equipment.

Gain on Sale of Facility. On November 11, 2004, we sold the assets associated with our specialty oligonucleotides manufacturing facility in Boulder, Colorado to a subsidiary of Eyetech Pharmaceuticals, Inc. (Eyetech). The sale price was $3.00 million in cash plus the assumption of the lease on the Boulder facility and of certain equipment leases with a gross value of $2.38 million. Net proceeds from the sale (after transaction expenses and fees paid to our investment advisors) equaled approximately $2.70 million. In conjunction with this transaction, we recorded a gain on sale of $1.47 million in the fourth quarter of 2004.

Other Income (Expense). Other expense during 2004 of $5.41 million consisted of interest expense of $2.38 million, loss on debt extinguishment of $2.86 million, and other net expense of $0.16 million which consisted primarily of net investment losses associated with available-for-sales securities (Geron stock). Other expense during 2003 of $0.31 million consisted of interest income of $0.20 million, interest expense of $0.31 million and other net expenses of $0.20 million.

The increase in interest expense resulted from higher average debt balances and interest rates. Gross debt totaled $8.95 million at December 31, 2004 compared to $4.69 million at December 31, 2003. Our Credit Line and Term Note had average balances during 2004 of $5.69 million and $2.73 million, respectively, with weighted average interest rates of 6.39% and 6.48%, respectively. The high and low borrowings under our Credit Line during 2004 were $7.23 million and $2.63 million, respectively. Interest expense in 2004 and 2003 includes amortization of related premiums and discounts of $1.64 million and $0, respectively.

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Loss on debt extinguishment totaled $2.86 million during 2004. As described in Note E to the accompanying consolidated financial statements, certain August 31, 2004 modifications to our Laurus Loans were treated as extinguishments for financial reporting purposes since the change in present value of expected cash flows between the original and modified agreements is greater than 10%. As such, we recorded a loss on extinguishment of debt of $2.86 million at August 31, 2004 reflecting the difference between (i) the recorded amount of debt, net of related discounts, of $7.43 million and (ii) the fair value of the new debt instrument of $10.29 million plus the fair value of the new warrants of $0.11 million. The difference between the fair value of the new debt of $10.29 million and the face value of the debt of $8.57 million represents a premium, which will be reflected as a reduction of interest expense over the life of the new debt.

Income Tax Expense. Income tax expense relates solely to our operations in certain foreign countries and certain states. In addition to income tax expense in these jurisdictions, we do not record any income tax benefits due to our cumulative losses in recent years, expected losses in future years and the uncertainty as to whether we will be able to utilize any additional losses as carrybacks. We will continue to assess the recoverability of deferred tax assets and the related valuation allowance. We expect to continue to incur losses and expect to continue to provide valuation allowances against deferred tax assets. To the extent we begin to generate income in future years and it is determined that such valuation allowance is no longer required, the tax benefit of the remaining deferred tax assets will be recognized. Our deferred tax assets as of December 31, 2004 were $38.29 million and were entirely offset by a valuation allowance. As of December 31, 2004, we had federal net operating loss carryforwards of approximately $91.47 million. Our net operating loss carryforwards will expire at various dates from 2008 through 2024, if not utilized. We also had state income tax loss carryforwards of $37.62 million at December 31, 2004. These carryforwards will also expire at various dates beginning in 2005 if not utilized.

Years Ended December 31, 2003 and 2002

Net Sales. Net sales decreased in 2003, as compared to 2002, due to a significant decline in demand for our Nucleic Acids products. Sales in our Nucleic Acids operating segment decreased due to a significant decline in demand for our chemical building block products. These products are used by our biopharmaceutical and pharmaceutical customers as raw materials in DNA based drug candidates. The decrease in demand is largely attributable to the timing of completion and/or failure of Phase III clinical trials by certain of our large customers. This decrease in demand for DNA building blocks in 2003 was partially offset by sales of oligonucleotides generated by our start-up manufacturing facility in Boulder, Colorado.

Sales in our BioSystems operating segment increased in 2003. Revenues from sales of WAVE systems and related services were relatively flat with 2002. However, bioconsumable product sales strength resulted from increased WAVE related consumable usage as the installed base of WAVE Systems has increased and as researchers begin to use them more extensively in place of other methods of DNA analysis. Also contributing to the increase were revenues generated by new product sales including our Optimase product line that was launched in 2002 and began to see increased usage in 2003. Sales of WAVE systems declined slightly from 2002 to 2003 offset by an increase in related services revenues. The slight decline in systems sales was mainly due to continued low sales volumes to our North American customer base. Increased services revenue was attributable to our focus on providing genetic variation discovery and analysis services to our pharmaceutical base of customers.

Cost of Goods Sold. Cost of goods sold increased in 2003 over 2002 despite the decline in our revenues. This increase was anticipated and was attributable mainly to excess manufacturing capacity in our Nucleic Acids operating segment. The BioSystems operating segment cost of goods sold as a

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percentage of sales declined year over year but remained within historical ranges at approximately 43%. The margins in our Nucleic Acids operating segment were negatively impacted by higher manufacturing costs and excess capacity due largely to our plant expansion efforts in Glasgow, Scotland and Boulder, Colorado.

Selling, General and Administrative Expenses. Selling, general and administrative expenses decreased significantly from 2002 to 2003 as a result of our restructuring activities and focus on expense control. Nearly half of the total decrease was in personnel and personnel related expenses as we significantly reduced our employee headcount. Additionally, reductions in outside services, advertising, sales promotions, depreciation and travel expenses accounted for approximately 30% of the total decrease.

Research and Development Expenses. Research and development expenses decreased significantly as a result of our restructuring activities and focus on expense control. Over 60% of the total decrease was in personnel and personnel related expenses as we significantly reduced our employee headcount. Additionally, significant reductions in outside services, supplies, depreciation and travel expenses were realized. During 2003 there were no capitalized software costs, whereas in the prior year we capitalized approximately $1.13 million of development costs. Research and development expenses consist of salaries and related personnel costs of researchers and software developers, material costs for prototypes and test units, legal expenses relating to intellectual property research and application development activities, testing and enhancement of our products, and amortization of intellectual property. We expense our research and development costs in the year in which they are incurred with the exception of certain capitalized software development costs.

Restructuring Charges. During the fourth quarter of 2002 management formulated and executed a significant portion of a restructuring plan. The plan was developed to reduce expenses thereby better aligning the Company s expense structure with current business prospects. The plan included employee terminations, office closures, termination of collaborations and write-offs of abandoned intellectual property. We continued to execute the plan during the first half of 2003 resulting in the additional charges recorded in 2003. These charges consisted of mainly employee severance costs and the write-off of a note receivable related to the abandonment of a product development collaboration. The note receivable write-off was a non-cash charge of $0.35 million.

Goodwill Impairment Charge. Statement of Financial Accounting Standard (SFAS) No. 142, *Goodwill and Other Intangible Assets,* establishes guidelines for accounting for goodwill and other intangible assets and provides that goodwill and other intangible assets with indefinite lives will not be amortized, but will be evaluated for impairment annually. The Company engaged an external valuation firm to assist with the completion of its annual impairment test during the fourth quarter of 2003. As a result of this test we recorded a non-cash goodwill impairment charge of $4.77 million related to our nucleic acids segment.

Income Taxes. The Company s tax expense relates to its operations in certain foreign countries and certain states. No tax benefits are being recorded due to our cumulative losses in recent years, expected losses in future years and the uncertainty as to whether we will be able to utilize any additional losses as carrybacks. We will continue to assess the recoverability of deferred tax assets and the related valuation allowance. We expect to continue to incur losses and expect to continue to provide valuation allowances against deferred tax assets. To the extent we begin to generate income in future years and it is determined that such valuation allowance is no longer required, the tax benefit of the remaining deferred tax assets will be recognized. Our deferred tax assets as of December 31, 2003 were $30.60 million and were entirely offset by a valuation allowance. As of December 31, 2003, we had federal net operating

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loss carryforwards of approximately $78.50 million. We also had state income tax loss carryforwards of $28.70 million at December 31, 2003.

Liquidity and Capital Resources

Our working capital positions at September 30, 2005 and December 31, 2004 were as follows (in thousands):

	September 30, 2005	December 31, 2004	Change
Current assets [1]	$ 16,399	$ 17,908	$ (1,509)
Current liabilities	14,986	18,724	(3,738)
Working Capital	$ 1,413	$ (816)	$ 2,229

[1] Current assets include cash and cash equivalents of $1,361 and $1,002 at September 30, 2005 and December 31, 2004, respectively.

The improvement in our working capital position during the first nine months of 2005 was due primarily to conversions of $2.58 million of borrowings under our Laurus Loans into shares of our common stock. We had $0.91 million available under our Credit Line at September 30, 2005. On October 31, 2005, we received proceeds from the 2005 Private Placement of $13.90 million after transaction costs of $1.18 million. These proceeds were partially used to repay all outstanding principal and accrued interest on our Laurus Loans including fees to facilitate the 2005 Private Placement and prepayment penalties to Laurus in the sum of $0.82 million. As a result, our Laurus Loans have been cancelled and are no longer available to us. The remaining proceeds of $5.35 million will be used for future working capital needs.

The following shows the effects of the 2005 Private Placement and simultaneous repayment of the Laurus Loans on our September 30, 2005 consolidated balance sheet data as if these transactions had occurred on September 30, 2005 (in thousands).

	September 30, 2005	
	Actual	As Adjusted
Cash and cash equivalents	$ 1,361	$ 6,669
Credit Line	$ 6,935	$
Current portion of Term Note	$ 675	$
Term Note, less current portion	$ 1,226	$

Total stockholder s equity[1]	$ 15,577	$ 29,220

(1) At November 29, 2005, we have 49,172,079 shares outstanding and 13,603,592 potentially dilutive securities consisting of 5,541,015 options issued under our stock option plan and warrants representing 8,062,577 shares.

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While we believe that existing sources of liquidity are sufficient to meet expected cash needs through 2006, we have experienced recurring net losses and have historically relied upon cash flows from investing and financing activities to offset significant cash outflows from operating activities. To the extent necessary, we believe that we can manage costs and expenses at reduced levels to conserve working capital. The need for any such cost and expense reductions would likely delay implementation of our business plan. Ultimately, we must achieve sufficient revenues in order to generate positive net earnings and cash flows from operations.

Analysis of Cash Flows

Nine Months Ended September 30, 2005 and 2004

Net Change in Cash and Cash Equivalents. Cash and cash equivalents increased $0.36 million during the nine months ended September 30, 2005 as a result of net cash from investing activities and financing activities of $0.24 million and $2.31 million, respectively, offset by net cash used in operating activities of $1.98 million, and changes in foreign currency exchange rates of $0.21 million.

Cash Flows from Operating Activities. Cash flows used in operating activities totaled $1.98 million during the nine months ended September 30, 2005 compared to $8.71 million during the same period of 2004. The use in 2005 related primarily to a net loss of $3.78 million offset by non-cash charges of $4.83 million. Non-cash charges consisted primarily of depreciation and amortization and certain financing costs. Working capital and other adjustments decreased cash flows from operating activities by $3.03 million. We spent $1.54 million during the nine months ended September 30, 2005 related to the 2004 Restructuring Plan. We had accrued expenses associated with this plan of $0.37 million at September 30, 2005. This balance relates primarily to future rents on closed facilities (net of projected sublease rents) of which $0.03 million is expected to be paid during the remainder of 2005 and $0.34 million in 2006 and thereafter.

Cash Flows from Investing Activities. Cash flows provided by investing activities totaled $0.24 million during the nine months ended September 30, 2005 compared to cash flows used in investing activities of $1.54 million during the same period of 2004. The principal source of cash flows from investing activities in 2005 were sales of available for sale securities (Geron stock) of $0.62 million that were offset by purchases of $0.55 million of property and equipment primarily associated with the build out of our Glasgow, Scotland manufacturing facility that is substantially complete.

Cash Flows from Financing Activities. Cash flows from financing activities totaled $2.31 million during the nine months ended September 30, 2005 compared to $7.19 million during 2004. The principal source of cash flows from financing activities in 2005 was net draws on our Credit Line that were offset by payments on our Term Note. There are no scheduled principal payments for the remainder of 2005 on our Term Note.

Years Ended December 31, 2004 and 2003

Net Change in Cash and Cash Equivalents. Cash and cash equivalents decreased $0.24 million during the year ended December 31, 2004 as net cash used in operating activities of $12.75 million offset by net cash from investing activities and financing activities of $6.03 million and $6.00 million, respectively and changes in foreign currency exchange rates of $0.48 million.

Cash Flows Used in Operating Activities. Cash flows used in operating activities totaled $12.75 million during 2004 compared to $13.02 million during 2003. The use in 2004 related primarily to a net loss of $34.37 million offset by non-cash charges of $21.80 million. Non-cash charges consisted of

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depreciation and amortization, certain restructuring charges, impairment charges, certain financing costs and loss on debt extinguishment. Working capital and other adjustments decreased cash flows from operating activities by $0.18 million.

Cash Flows from Investing Activities. Cash flows from investing activities totaled $6.03 million during 2004 compared to cash flows used in investing activities of $2.95 million during 2003. The investing cash flows generated in 2004 were from the sale of available for sale securities received from Geron for goods and services and the sale of our specialty oligoneucleotide manufacturing facility and reductions in other assets that were offset by purchases of property and equipment.

Cash Flows from Financing Activities. Cash flows from financing activities totaled $6.00 million during 2004 compared to $7.30 million during 2003. The cash from financing activities in 2004 relate primarily to net draws on our Credit Line and proceeds from the Term Note that were offset by payments of long-term debt.

Obligations and Commitments

Our ongoing capital commitments consist of debt service requirements and obligations under capital leases. The following table sets forth our contractual obligations as of December 31, 2004 along with cash payments due in each period indicated (in thousands):

	Payments Due by Period				
	2005	2006	2007	2008	2009 and Thereafter
Credit Line[1]	$ 5,948	$	$	$	$
Term Note[1]	850	900	850		
Operating lease payments[2]	1,958	1,382	486	187	372
Total contractual obligations	$ 8,756	$ 2,282	$ 1,336	$ 187	$ 372

The following table sets forth our contractual obligations as of September 30, 2005 along with cash payments due in each period indicated (in thousands):

	Payments Due by Period					
	Total	2005	2006	2007	2008	2009 and thereafter
Credit Line [1]	$ 6,588	$ 6,588	$	$	$	$
Term Note [1]	1,675		875	800		
Operating lease payments [2]	2,584	359	1,233	443	189	360

Purchase obligations	872	248	370	254		
Total contractual obligations	$ 11,719	$ 7,195	$ 2,478	$ 1,497	$ 189	$ 360

(1) Interest payments under the Laurus Loans are not included in these tables. Historically, interest on these loans has been paid monthly based on outstanding debt and prevailing interest rates. In conjunction with the private placement that closed on October 31, 2005, we repaid the Term Note and Credit Line. As of November 29, 2005, we have no significant indebtedness that requires scheduled principal and interest payments. After giving effect to the repayment of the Credit Line and Term Note, total contractual obligations total $3,456 and are payable as follows: $607 in 2005, $1,603 in 2006, $697 in 2007, $189 in 2008 and $360 in 2009 and thereafter.

(2) These are gross lease commitments. Certain facilities underlying these commitments are sublet to independent third parties. As of December 31, 2004, annual rents from these tenants were expected to total $320, $170 and $20 in 2005, 2006 and thereafter, respectively. As of September 30, 2005, annual rents from these subtenants were expected to total $40, $172, and $16 in for the remainder of 2005, 2006 and thereafter, respectively.

At September 30, 2005 and December 31, 2004, we had firm commitments totaling $0.88 million and $0.80 million, respectively, to purchase components used in our WAVE Systems.

Off Balance Sheet Arrangements

At September 30, 2005 and December 31, 2004, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

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Critical Accounting Policies

Accounting policies used in the preparation of the consolidated financial statements may involve the use of management judgments and estimates. Certain of our accounting policies are considered critical as they are both important to the portrayal of our financial statements and they require significant or complex judgments on the part of management. Our judgments and estimates are based on experience and assumptions that we believe are reasonable under the circumstances. Further, we evaluate our judgments and estimates from time to time as circumstances change. Actual financial results based on judgment or estimates may vary under different assumptions or circumstances. The following are certain critical accounting policies that may involve the use of judgment or estimates.

Allowance for Doubtful Account. Accounts receivable are shown net of an allowance for doubtful accounts. In determining an allowance for doubtful accounts, we consider the following.

- The age of the accounts receivable,
- Customer credit history,
- Customer financial information,
- Reasons for non-payment, and
- Our knowledge of the customer.

If our customers financial condition were to deteriorate, resulting in a change in their ability to make payment, additional allowances may be required.

Inventories. Inventories are stated at the lower of cost or market. Cost is computed using standard costs for finished goods and average or latest actual cost for raw materials and work in process. Inventories include chemical building blocks for synthetic nucleic acids (know as phosphoramadites) and the raw materials to produce phosphoramadites. We periodically evaluate our inventory of phosphoramadites to determine whether they continue to meet quality and other specifications and over what time period such products are expected to be sold. Product that does not meet quality and other specifications can generally be re-worked to enhance purity. Costs to purify such product and related yield losses are expensed as incurred. Product that is not expected to be sold within 12 months is classified as a long-term other assets.

Depreciation and Amortization of Long-Lived Assets. Our long-lived assets consist primarily of property and equipment, patents, intellectual property and capitalized software development costs. We believe the useful lives we assigned to these assets are reasonable. If our assumptions about these assets change as a result of events or circumstances and we believe the assets may have declined in value we may record impairment charges resulting in an increase to operating expenses. Property and equipment are carried at cost. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the related assets ranging from 3 to 15 years. We capitalize external and in-house legal costs and filing fees associated with obtaining patents on its new discoveries and amortizes these costs using the straight-line method over the shorter of the legal life of the patent or its economic life, generally 17 years, beginning on the date the patent is issued. Intellectual property, which is purchased technology, is recorded at cost and is amortized over its estimated useful life.

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Impairment of Long-Lived Assets. We evaluate goodwill for impairment on an annual basis. We assess the recoverability of long-lived assets whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. These computations utilize judgments and assumptions inherent in our estimate of future undiscounted and discounted cash flows to determine recoverability of these assets. If our assumptions about these assets were to change as a result of events or circumstances, we may be required to record an impairment loss.

Revenue Recognition. Revenue on the sales of products is recognized in accordance with the terms of the sales arrangement. Such recognition is based on receipt of an unconditional customer order and transfer of title and risk of ownership to the customer, typically upon shipment of the product. Our sales terms do not provide for the right of return unless the product is damaged or defective. Revenues from certain services associated with our analytical instruments, to be performed subsequent to shipment of the products, is deferred and recognized when the services are provided. Such services, mainly limited to installation and training services that are not essential to the functionality of the instruments, typically are performed in a timely manner subsequent to shipment of the instrument.

Recently Issued Accounting Pronouncements

On December 16, 2004, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 123R, Share-Based Payment. SFAS No.123R addresses the accounting for share-based payment transactions in which an enterprise receives employee services in exchange for (a) equity instruments of the enterprise or (b) liabilities that are based on the fair value of the enterprise s equity instruments or that may be settled by the issuance of such equity instruments. SFAS No. 123R eliminates the ability to account for share-based compensation transactions using Accounting Principles Board Opinion No. 25 and generally requires that such transactions be accounted for using a fair-value-based method. We expect to adopt this standard on January 1, 2006. We are assessing the final impact of this standard on our financial position, results of operations or cash flows. This assessment includes evaluating option valuation methodologies and assumptions as well as potential changes to compensation strategies.

On November 24, 2004, the FASB issued SFAS No. 151, Inventory Costs an amendment of ARB No. 43 . SFAS No. 151 requires idle facility expenses, freight, handling costs, and wasted material (spoilage) costs to be excluded from the cost of inventory and expensed when incurred. It also requires that allocation of fixed production overhead to be based on the normal capacity of the production facilities. SFAS No. 151 will be effective for the Company on January 1, 2006. We are assessing the final impact of this standard on our financial position, results of operations or cash flows.

Impact of Inflation

We do not believe that price inflation had a material adverse effect on our financial condition or results of operations during the periods presented.

Foreign Currency Rate Fluctuations

During the last three fiscal years, our international sales have represented approximately 50-65% of our net sales. These sales of products in foreign countries are mainly completed in either British Pounds Sterling or the Euro. Additionally, we have two wholly owned subsidiaries, Transgenomic, LTD., and Cruachem, LTD., whose operating currency is British Pounds Sterling and the Euro. Results of operations for the

Company s foreign subsidiaries are translated using the average exchange rate during the period. Assets and liabilities are translated at the exchange rate in effect on the balance sheet dates. As a result we are subject to exchange rate risk. The operational expenses of our foreign

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subsidiaries help to reduce the currency exposure we have based on our sales denominated in foreign currencies by converting foreign currencies directly into goods and services. As such, we feel do not have a material exposure to foreign currency rate fluctuations at this time.

Quantitative and Qualitative Disclosures About Market Risk

Our Laurus Loans carried a variable interest rate of 2% over the prime rate or a minimum of 6%, and therefore, expose us to interest rate risk. Based on the outstanding balance of these loans at December 31, 2004 of $8.50 million, a 1% increase in the prime rate would increase our interest expense by approximately $0.09 million annually. We repaid the entire principal balance of the Laurus Loans on October 31, 2005 with the proceeds from the 2005 Private Placement. As a result, the Laurus Loans have been cancelled and are no longer available to us. Accordingly, we no longer have any borrowings which subject us to material interest rate risk.

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BUSINESS

Company Overview

We develop, manufacture and sells innovative products for the analysis, synthesis and purification of nucleic acids through two operating segments, BioSystems and Nucleic Acids.

The BioSystems operating segment develops, assembles, manufactures and markets versatile products and provides analytical services to the medical research, clinical and pharmaceutical markets for use in genetic variation analysis. Products and services are sold through a direct sales force in the United States and throughout much of Western Europe. For the rest of the world, products and services are sold through more than 25 dealers and distributors located in those local markets. Net sales from this operating segment are categorized as bioinstruments, bioconsumables and discovery services.

Bioinstruments. The flagship product of the BioSystems operating segment is the WAVE system which has broad applicability to genetic variation detection in both molecular genetic research and molecular diagnostics. There was a world-wide installed base of 1,269 WAVE systems as of September 30, 2005. Additionally, this operating segment utilizes its sales and distribution network to sell a number of independent, third party equipment platforms. Service contracts to maintain installed systems are sold and supported by technical support personnel.

Bioconsumables. The installed WAVE base generates a demand for consumables that are required for the system s continued operation. These products are developed, manufactured and sold by this operating segment. In addition, the BioSystems operating segment manufactures and sells consumable products that can be used on multiple, independent platforms. These products include SURVEYOR Nuclease and a range of HPLC separation columns.

Discovery Services. The BioSystems operating segment provides various genetic laboratory services through a contract research lab in Gaithersburg, Maryland and a second laboratory in Omaha, Nebraska that operates in a Good Laboratory Practices (GLP) compliant environment and is certified under the Clinical Laboratory Improvement Amendment. The services provided primarily include (1) genomic biomarker analysis services to pharmaceutical and biopharmaceutical companies to support preclinical and clinical development of targeted therapeutics; and (2) molecular-based testing for hematology, oncology and certain inherited diseases for physicians and third-party laboratories.

The Nucleic Acids operating segment develops, manufactures and markets chemical building blocks for nucleic acid synthesis to biotechnology, pharmaceutical and oligonucleotide synthesis companies and research institutions throughout the world. These products are produced primarily in this operating segment s only facility in Glasgow, Scotland. Prior to November 11, 2004, this operating segment also manufactured synthesized segments of nucleic acids (known as oligonucleotides) in a facility in Boulder, Colorado. On November 11, 2004, the assets associated with this facility were sold to an unaffiliated, third party. As a result, the Nucleic Acids operating segment no longer manufactures and sells these specialized oligonucleotides. A substantial portion of this operating segment s revenues during 2005 and 2004 have been derived from one customer.

Business Strategy

Since inception, our business strategy has been to provide products and services to biomedical researchers, medical institutions, diagnostic and pharmaceutical companies that are tied to advancements

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in the field of genetics. The movement in the field of genomics, and related market opportunities, has shifted from gene discovery to the analysis of variations in gene sequences. Researchers are beginning to link variations in the gene sequences to disorders and diseases. Accordingly, a principal component of our strategy has been to establish our WAVE System as the industry standard in the genetic research market and to develop additional markets for the WAVE System such as diagnostics. Through an expanding base of installed systems, we expect to increase the sales of consumable products used with the WAVE.

We have also historically sought to position ourselves as a partner to biopharmaceutical and pharmaceutical companies in the early stages of their efforts to develop genomic-based diagnostics and therapeutics, thereby allowing us to participate in future successes of products derived from the expanding knowledge of genomics. While we continue to believe that the long-term prospects for this business segment are favorable, we concluded that near-term revenues from this segment would generate neither positive cash flows nor profits from operations. Consequently, in the second quarter of 2004, our Board of Directors directed management to explore strategic alternatives for our Nucleic Acids operating segment, including the possible sale of one or both of the facilities in Glasgow, Scotland and Boulder, Colorado. On November 11, 2004, we sold the assets associated with our specialty oligonucleotide manufacturing facility in Boulder, Colorado. We continue to operate our facility in Glasgow, Scotland which primarily produces chemical building blocks used in the synthesis of nucleic acids. However, we have taken steps to consolidate these operations and to reduce costs in order to better align operating expenses with anticipated revenues.

Our business strategy going forward is to achieve revenue growth in our BioSystems operating segment and to better align our cost structure with anticipated revenues in both of our operating segments.

Sales and Marketing

We have sold our products to customers in over 30 countries. We use a direct sales and support staff for sales in the U.S., U.K. and most countries in Western Europe. For the rest of the world, we sell our products through dealers and distributors located in those local markets. We have over 25 dealers and distributors. We also maintain regionally-based technical support staffs and applications scientists to support our sales and marketing activities throughout the U.S. and Europe.

Operating segment and geographic information is included in the consolidated financial statements included elsewhere in this Prospectus.

Customers

Customers include numerous leading academic and medical institutions in the U.S. and abroad. In addition, our customers also include a number of large, established U.S. and foreign pharmaceutical, biotech and commercial companies.

During the nine months ended September 30, 2005, sales to a large pharmaceutical company totaled $2.0 million and represented 10% of net sales within the BioSystems operating segment and 9% of total consolidated net sales. Sales to this customer are governed by a non-binding master services agreement dated August 22, 2002. Sales to this customer are governed by a non-binding master services agreement dated August 22, 2002. Accordingly, the amount of sales to this customer is subject to change.

During the nine months ended September 30, 2005, sales to Geron Corporation (Geron) totaled $1.7 million and represented 54% of net sales within the Nucleic Acids operating segment and 7% of total consolidated net sales. During 2004, sales to Geron Corporation totaled $4.15 million and represented

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49% of total net sales within our Nucleic Acids operating segment and 12% of total consolidated net sales Sales to Geron are governed by a supply agreement under which Geron may pay the Company for goods and services with shares of Geron common stock. The supply agreement does not require Geron to purchase any minimum quantity of our products. Accordingly, the amount of nucleic acid products we sell to Geron is subject to change. Revenues from our Nucleic Acids business would be substantially reduced if Geron s need for our products declined or if it decided to obtain these products from other suppliers.

No other customer accounts for more than 10% of total consolidated or operating segment net sales.

Research and Development

We maintain an active program of research and development and expect to continue to incur significant expense for these activities going forward. Our research and development activities include the improvement of the DNA separation media used in our WAVE System, the refinement of the hardware and software components of the WAVE System, the creation of unique enzymes and WAVE-Optimized® enzymes, and, to a lesser extent, the improvement of chemical and biochemical reaction techniques for synthetic nucleic acids.

For the nine months ended September 30, 2005 and for the year ended December 31, 2004, our research and development expenses were $1.70 million and $6.69 million, respectively. This represents a substantial reduction from our prior levels of expenditures that were $9.31 million and $12.20 million for the years ended December 31, 2003 and 2002, respectively. We expect to continue to invest in research and development activities at levels that are relatively consistent with those experienced during 2005; however, we may also curtail such activities as required.

Manufacturing

We manufacture bioconsumable products including our separation columns, liquid reagents, enzymes and nucleic acid products. The major components of our WAVE systems are manufactured for us by a third party. We integrate our own hardware and software with these third party manufactured components. Our manufacturing facilities for our WAVE® systems and bioconsumables are located in Omaha, Nebraska, San Jose, California, and Cramlington, England. The nature of our instruments and bioconsumables business does not generally lend itself to tracking and reporting sales backlog.

Our phosphoramidites and related synthetic nucleic acid products are manufactured in our Glasgow, Scotland facility. Inventory for these products consists primarily of chemical building blocks for synthetic nucleic acids (know as phosphoramadites) and the raw materials to produce phosphoramadites. As of September 30, 2005 and December 31, 2004, we have classified a portion of this inventory as a long-term other asset based on its existing sales forecasts for these products. We periodically evaluate our inventory of phosphoramadites to determine whether they continue to meet quality and other specifications and over what time period such products are expected to be sold. Product that does not meet quality and other specifications can generally be re-worked to enhance purity. Costs to purify such product and related yield losses are expensed as incurred.

Intellectual Property

To establish and protect our proprietary technologies and products, we rely on a combination of patent, copyright, trademark and trade-secret laws, as well as confidentiality provisions in our contracts. We presently own rights to more than 80 issued patents and 30 pending applications in both the U.S. and abroad. Our BioSystems operating segment products, comprising the WAVE® System and related

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consumables, are protected by patents and in-licensed technologies that expire in various periods beginning in 2013 through 2022. Intellectual property related to our Synthetic Nucleic Acid business unit, other than production trade secrets, is almost entirely in-licensed. A number of these in-licensed patents have recently, or will soon, expire. As a result, we expect price competition in the Nucleic Acids operating segment to intensify in the next year. We will continue to file patent applications and seek new licenses as warranted to protect and develop new technologies of interest to our customer base in the coming years.

Competition

The markets in which our Biosystems operating segment operates are highly competitive and characterized by rapidly changing technological advances. A number of our competitors possess substantial resources and are able to develop and offer a much greater breadth of products and/or services, coupled with significant marketing and distribution capabilities. We compete principally on the basis of uniquely enabling technical advantages in specific but significant market segments.

Competition for our WAVE Systems arises primarily from DNA sequencing and genotyping technologies. Competitors in these areas include Applied Biosystems, Beckman Coulter, Amersham (now part of GE Healthcare), Affymetrix, Agilent Technologies, Nanogen, Illumina, Sequenom, Pyrosequencing (now part of Biotage AB), Varian, and others. Competition for some of our non-WAVE consumable products comes from numerous well-diversified life sciences reagents providers, including, among others, Invitrogen, Qiagen, Roche, Stratagene, and Promega. Our discovery services product line faces competition from a number of companies offering contract DNA sequencing and other genomic analysis services, including Genaissance Pharmaceuticals, GeneLogic, Agencourt, SeqWright, Gentris, and Perlagen. In addition, several clinical diagnostics service providers, such as Labcorp, Quest, and Specialty Laboratories, also offer related laboratory services in support of clinical trials. Finally, additional competition arises from academic core laboratory facilities.

Competition is also intense in the markets in which our Nucleic Acids operating segment functions, and increasingly driven by price. Transgenomic competes on the basis of its ability to develop and manufacture synthetic nucleic acid building blocks used to make DNA and RNA oligonucleotides. Competitors include Proligo, Degussa, Pierce Nucleic Acid Technologies, and Applied Byosystems. In addition, competition is expected in the future from new overseas entrants focusing on low cost production.

Employees

As of September 30, 2005, December 31, 2004 and December 31, 2003, we had employees focused in the following areas of our operation:

	September 30, 2005	December 31, 2004	December 31, 2003
BioSysytems Operating Segment			
Manufacturing	51	52	54