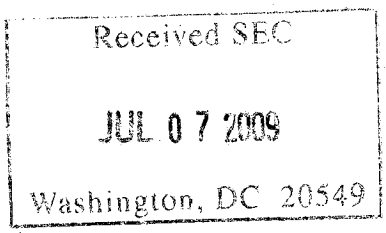

# Annual Report 2008




deCODE genetics

deCODE genetics

# PRESIDENT'S LETTER

*To our shareholders:*

The past year has been an exciting and clearly challenging period for deCODE. As we have expanded our product portfolio, the effect of the global financial crisis has been to diminish our resources and make it more difficult to raise capital. To meet this challenge we have sharpened the focus of our business on what we do best: bringing to market pioneering tests and personal genome scans to improve health and healthcare, based upon our unrivalled ability to discover high-impact genetic risk factors for common diseases. In order to realize the potential of these products, we are working to restructure our operations and obligations, and need to secure new funding in difficult circumstances.

deCODE's capabilities and products put us in a unique position to meet a growing need in the effort to provide better, more cost-effective healthcare. The ability to more precisely measure and address individual risk of disease is the foundation for delivering more personalized medicine. By understanding genetic risk we can empower individuals, both on their own and working with their doctors, to reduce their overall risk of disease through lifestyle modification and even medication. We can also focus the latest screening methods and preventive therapy on those likely to derive benefit. deCODE's products and intellectual property provide a means to enable more targeted screening, earlier intervention, and more effective prevention.

In 2008, we launched three new risk assessment tests based upon our discovery of single-letter variations in the sequence of the human genome linked with increased risk of disease. deCODE BreastCancer™ enables the identification of the roughly five percent of women who are at a greater than twenty percent lifetime risk of the common forms of breast cancer, and who should thus, according to current guidelines, be considered for annual MRI breast screenings in addition to mammograms. deCODE ProstateCancer™ can identify the ten percent of men who are at more than double the average lifetime risk of the disease, and who may therefore benefit from earlier and more intensive screening. deCODE Glaucoma™ measures susceptibility to a major subtype of glaucoma.

These discoveries and those we have made in many other conditions are folded into deCODEme™, the world's first personal genome analysis service. Since the beginning of last year, deCODEme™ subscribers have been the first to receive updates to their profiles with our newly discovered genetic risk factors for cancers of the bladder, skin, thyroid and lung, as well as obesity, osteoporosis, essential tremor, and nicotine addiction, among many others. We believe that a high-quality personal genetic profile like that in deCODEme™ will steadily become a standard tool for empowering individuals to take more control over their health.

With our strategic focus on capturing the value of these products and the intellectual property generated by our gene discovery engine, we are exploring the advancement of our therapeutics programs through partnerships and the sale of non-core assets. There is significant interest in both our lead developmental compounds as well as in the chemistry and protein crytallography capabilities that discovered them. DG041 is our Phase II novel anti-platelet being advanced as a means of combatting arterial thrombosis without increasing bleeding time. DG051, being developed for the prevention of heart attack, has been shown in Phase II trials to reduce the production of the pro-inflammatory molecule leuktriene B4 in a dose-dependent manner. Last year we filed an IND on DG071, a promising novel modulator of phosphodiesterase 4 for Alzheimer's and other cognitive disorders, and which offers a novel means of addressing this family of targets with a much wider margin of safety and tolerability than existing compounds.

In concentrating our efforts and resources on capturing the value coming out of our leadership in human genetics, we are working to build a business that can be sustainable in the near term and profitable in the longer term. We are committed to restructuring the company and to pursuing those strategic options that will enable us to take deCODE forward as a streamlined, efficient and well capitalized organization. This is the challenge, and we need to secure new resources to meet it. This will not be easy, but the goal remains clear: to position deCODE to realize the medical and commercial potential of its products and to play a central part in bringing genetics into the heart of healthcare.



Kari Stefansson
*President and CEO*

# UNITED STATES
# SECURITIES AND EXCHANGE COMMISSION

**Washington, D.C. 20549**

# FORM 10-K

**(Mark One)**

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the fiscal year ended December 31, 2008**

**or**

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the transition period from to**

**Commission File Number 000-30469**

# deCODE genetics, Inc.

(Exact name of registrant as specified in its charter)

| **Delaware** | **04-3326704** |
|---|---|
| (State or other jurisdiction of incorporation or organization) | (I.R.S. Employer Identification No.) |

**Sturlugata 8, Reykjavik, Iceland**
(Address of principal executive offices)

**+ 354-570-1900**
(Registrant's telephone number, including area code)

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

| **Title of each class** | **Name of each exchange on which registered** |
|---|---|
| Common Stock, $.001 par value | The Nasdaq Stock Market, LLC |

**Securities registered pursuant to Section 12(g) of the Act:**
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

| Large accelerated filer ☐ | Accelerated filer ☒ | Non-accelerated filer ☐ (Do not check if a smaller reporting company) | Smaller reporting company ☐ |
|---|---|---|---|

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant, computed by reference to the price at which the common stock was last sold as of the last business day of the registrant's most recently completed second fiscal quarter was $55,528,787.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of March 25, 2009.

| **Class** | **Number of Shares** |
|---|---|
| Common Stock, $.001 par value | 61,762,805 |

## DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement for the registrant's 2009 Annual Meeting of Stockholders are incorporated by reference into Part III.

## PART I

## INTRODUCTORY NOTE

Our planned operations require immediate additional liquidity which may not be available to us, thereby raising substantial doubt about our ability to continue as a going concern. At December 31, 2008, we had liquid funds available for operating activities (cash and cash equivalents together with current investments) of $3.7 million as compared to $64.2 million at December 31, 2007. In January 2009, we sold our auction rate securities (ARS) to an Icelandic financial institution for an aggregate price of approximately $11.0 million, with which we believe we have sufficient funds to sustain our operations only into the second quarter of 2009. To address deCODE's immediate need for funds, management and the Board of Directors are exploring the possibilities of (i) selling some or all of deCODE's U.S, subsidiaries and/or its diagnostics and deCODEme businesses based in Iceland, (ii) granting licenses to specific diagnostic products, (iii) entering into a collaboration for gene sequencing, (iv) selling some or all of deCODE's clinical and pre-clinical drug discovery programs, (v) restructuring deCODE's outstanding convertible notes and (vi) obtaining new equity financing. Closing on opportunities in (ii) and (vi) could provide cash flow to meet immediate needs. Achieving (v) could result in either a cash settlement of deCODE's convertible note obligation for substantially less than the carrying amount or in a conversion of the convertible notes into equity of deCODE. Receipt of additional equity financing to support operations in the longer term depends in large part on the outcomes of actions in (ii), (iii) and (v). Management and the board are having ongoing dialogues and negotiations with third parties in each of these areas. If deCODE's Board of Directors concludes that any of these options can be better implemented in a bankruptcy proceeding, deCODE will commence a proceeding under Chapter 11 of the U.S. Bankruptcy Code. Whether in a bankruptcy proceeding or otherwise, the consummation of any of these approaches are dependent on successful negotiations with third parties and in many cases the availability of financing to such third parties. There can be no asssurance that any potential transactions will be consummated or will result in sufficient funding to sustain operations. If deCODE is unable to raise additional capital through one or more of these options, it will be able to continue operations only into the second quarter of 2009 and thereafter may be forced to discontinue its operations and liquidate its remaining assets.

The information included herein should be evaluated in that context. See Item 1A, "Risk Factors", and Note 1 of the Notes to Consolidated Financial Statements, included herein, for additional information.

### Item 1. *Business*

#### Overview

Headquartered in Reykjavik, Iceland, deCODE is a bio-pharmaceutical company developing and marketing products to improve the treatment, diagnosis and prevention of common diseases. deCODE applies its capabilities in chemistry and structural biology to the development of drugs in major therapeutic areas, and applies its discoveries in human genetics to bring to market DNA-based reference laboratory tests and consumer genome analysis services to assess individual risk of common diseases. As these diseases are common and there is significant unmet need for both more effective therapies as well as tools to empower better prevention, we believe that our strategy represents a significant opportunity to create better medicine with major potential—both near- and longer-term—in the global marketplace.

We believe that our advantage in DNA-based disease risk assessment tests and personal genomics derives from our population approach to human genetics and the ability to apply our discoveries directly to the development of DNA-based reference laboratory tests for common diseases and to our retail genome scans. We have comprehensive population resources in Iceland and one of the largest genotyping facilities in the world, enabling our scientists to effectively identify key variations in the

sequence of the human genome associated with a major impact on individual risk of common diseases. Well-validated genetic variations conferring risk of disease are the basis for DNA-based reference laboratory tests and personal genome scans that can more accurately assess individual risk of disease, and deCODE is a global leader in the discovery of these genetic risk factors. As virtually all common diseases have both genetic and environmental risk factors, measuring genetic risk is in our view a critical component for the realization of personalized medicine. By providing a more complete understanding of individual risk, such tests can empower better prevention in those conditions in which known lifestyle and environmental risk can be modified, as well as targeted screening and early intervention in diseases such as cancer.

We believe that the value of deCODE's drug discovery and development programs derives from our integrated capabilities in structure-based drug design and medicinal chemistry. Through our structural biology and chemistry units based in the United States, we can develop new and detailed understanding of the structure and binding sites of drug targets. This makes it possible to discover compounds that may have superior safety and tolerability profiles than existing drugs. deCODE has fully integrated capabilities ranging from targeted *in vitro* and model organism biology through cGMP manufacturing for clinical trials.

In the context of limited financial resources the company's principal focus since the beginning of 2008 has been to maximize near-term value creation, utilizing our success in gene discovery to advance the commercial opportunities in our diagnostics and deCODEme™ businesses. We have been seeking to continue the development of our therapeutics programs through partnerships and have advanced select preclinical programs while employing our drug discovery capabilities to generate contract service revenue.

At December 31, 2008, we had liquid funds available for operating activities (cash and cash equivalents together with current investments) of $3.7 million as compared to $64.2 million at December 31, 2007. The net utilization of liquid funds in the year ended December 31, 2008 was $60.5 million. At December 31, 2008, we had $21.9 million of cash, cash equivalents and investments, comprised of $3.7 million of cash and cash equivalents, as well as $5.5 million in restricted cash and cash equivalents and $12.7 million in illiquid, non-current investments in auction rate securities. In January 2009, we sold our Auction Rate Securities (ARS) to an Icelandic financial institution for an aggregate price of approximately $11.0 million, with which we believe we have sufficient funds to sustain our operations only into the second quarter of 2009. As described in the introductory note above, deCODE's management and the Board of Directors are exploring a variety of possibilities for obtaining funding. However, if deCODE is unable to raise additional capital through one or more of these options, it will be able to continue operations only into the second quarter of 2009 and thereafter may be forced to discontinue its operations and liquidate its remaining assets.

*Diagnostics.* We are applying our discoveries and unique expertise in human genetics and genotyping to the development of reference laboratory DNA-based tests for assessing individual risk of a growing range of common diseases. Since April 2007 we have launched six reference laboratory DNA-based diagnostic tests to detect single-letter variations in the human genome (called SNPs) that we have linked to increased risk of several common diseases:

- *deCODE T2™*—which detects SNPs we discovered to be associated with increased risk of type 2 diabetes.
- *deCODE AF™*—which detects SNPSs we discovered to be associated with increased risk of atrial fibrillation and stroke
- *deCODE MI™*—which detects SNPs we discovered to be associated with early-onset heart attack, (myocardial infarction, or MI)

- *deCODE ProstateCancer™*—which detects SNPs we have linked to increased risk of prostate cancer
- *deCODE Glaucoma™*—which detects SNPs we have linked to increased risk of exfoliation glaucoma
- *deCODE BreastCancer™*—which detects SNPs we and others have linked to risk of the most common forms of breast cancer

Beginning in 2008, deCODE initiated billing to commercial insurance companies on behalf of physicians ordering these tests and has received reimbursement from several health insurance companies. All of our diagnostic tests are offered by deCODE via direct sales efforts to physicians in the United States; through marketing collaborations with other organizations in the U.S. and other countries; as well as through our dedicated diagnostics website, www.decodediagnostics.com. deCODE also has an alliance with Illumina, Inc. to develop DNA-based diagnostic kits utilizing deCODE's gene discoveries in certain diseases and Illumina's platform for SNP genotyping.

*deCODEme™*. In November 2007, we launched the first consumer genetic analysis service: deCODEme™. This service takes advantage of deCODE's leadership in human genetics and the capabilities of its high-throughput genotyping laboratory, which is CLIA registered for analytical and clinical validation. Through deCODEme™, subscribers can put themselves in the context of the latest discoveries in genetics, learning what their own DNA says about their ancestry and certain physical traits, as well as whether they have genetic variants that have been associated with higher or lower than average risk of a range of common diseases. This information is continually updated as new discoveries are made, and is presented in subscribers' secure individual web pages. Recently, we launched two focused disease scans, deCODEme Cardio™ for cardiovascular-related diseases and deCODEme Cancer™ for several common types of cancer. These scans offer subscribers an opportunity to understand their risk of groups of diseases that may be of particular interest without ordering the full genome scan. deCODEme™ products are offered through a dedicated website, www.decodeme.com.

*Drug Discovery and Development.* The expertise of our chemistry and structural biology units enables us to discover novel small-molecule therapeutic compounds targeting pathways identified by us or against novel targets identified by us in known pathways, take candidate compounds through pre-clinical testing, and manufacture sufficient quantities for early-stage clinical trials. Our integrated approach to medicinal chemistry and protein crystallography have helped us to discover compounds that bind selectively to our targets and at sites that may offer better safety and tolerability profiles than existing compounds for certain indications. deCODE is actively exploring drug development partnerships and out-licensing opportunities in order to advance the development of its therapeutics programs.

Our lead drug development programs include:

- *DG041 for the prevention of arterial thrombosis.* DG041 is our novel, first-in-class antagonist of the EP3 receptor for prostaglandins E2, which we are developing as a next-generation oral anti-platelet therapy aimed at preventing arterial thrombosis without increasing bleeding risk.
- *DG051 and DG031 for the prevention of heart attack.* We have completed Phase I and Phase IIa clinical studies for DG051, our leukotriene A4 hydrolase (LTA4H) inhibitor being developed for the prevention of heart attack. We successfully completed our reformulation of DG031, our Phase III 5-lipoxygenase activating protein (FLAP) inhibitor, in-licensed from a third party and which is also being developed for the prevention of heart attack.
- *DG071 for Alzheimer's and other cognitive disorders.* In October 2008 we filed an investigational new drug (IND) application for DG071, a novel small-molecule modulator of phosphodiesterase 4 (PDE4), being developed for Alzheimer's and other cognitive disorders.

deCODE is a Delaware corporation, incorporated in 1996. Our principal executive offices are located at Sturlugata 8, Reykjavik, Iceland. Our telephone number is +354 570-1900 and our website address is www.decode.com. We make available free of charge through the Investor Relations section of our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission, or the SEC. We include our website address in this Annual Report on Form 10-K only as an inactive textual reference and do not intend it to be an active link to our website. You may read and copy materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Room 1580, Washington, D.C. 20549. You may get information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains on internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at www.sec.gov.

References in this report to deCODE, the "Company", "we" and "us" refer to deCODE genetics, Inc., a Delaware company, and its wholly owned subsidiaries, Islensk erfdagreining ehf., an Iceland company registered in Reykjavik,, and its subsidiaries, and Medichem Life Sciences, Inc., a Delaware corporation, and its subsidiaries.

**Our product portfolio and development pipeline**

Over the past several years we have discovered and brought into clinical testing several novel small molecule compounds in major disease areas, compounds we believe have major therapeutic and commercial potential and which we are seeking to bring forward in clinical development through corporate partnerships. Over the course of more than a decade we have also actively studied the genetics and pathology of over 50 different common diseases using our population genetics approach. We have led the world in the discovery of variations in the sequence of the human genome conferring risk of common diseases, and our pioneering DNA-based reference laboratory diagnostic tests and personal genome scans are based upon these discoveries. deCODE's capabilities in drug discovery and human genetics enable the company to pursue product development in-house, but we are also leveraging our capabilities in genotyping, structural biology and chemistry to generate revenue in the near-term through our contract service businesses.

***DNA-based risk-predictive diagnostic tests and consumer genome analysis***

Diagnostics represent an important avenue for rapidly pursuing the medical and commercial value of our genetic discoveries, and since the beginning of 2007 we have brought to market six DNA-based reference laboratory tests for measuring individual inherited risk of several common diseases. We also offer a personal genome analysis service, deCODEme™. Because genetic variants linked to disease are by definition markers of disease susceptibility, we can apply the same findings we employ in our drug discovery efforts to the development of DNA-based diagnostic tests. We believe that such tests may be useful as a means for identifying patients who are at a particularly high risk of a given disease, and those who are likely to respond well to drugs that target the same disease pathway.

The key to developing such tests and scans is the ability to identify common SNPs that confer significant risk of common diseases. deCODE is a world leader in gene discovery, based upon a unique set of capabilities and resources the company has assembled in Iceland. These include a genealogy database linking together the entire current-day population of Iceland; detailed genetic and medical information from most of the adult population of Iceland, who are taking part in one or more of our research programs; genetic and medical data from hundreds of thousands of participants from the U.S., Europe and around the world; one of the world's largest high-throughput genotyping facilities, enabling us to conduct genome-wide association studies utilizing hundreds of thousands of markers across the

genomes of many thousands of patients and control subjects in each study; and proprietary bioinformatics and statistical tools to correlate information on disease with specific genetic variations.

By mining these datasets our scientists can effectively trace the genetic components of virtually any common disease, pinpointing key SNPs and genes that confer increased risk. The company's discoveries are also validated in multiple populations before they are integrated into our tests and scans. Once we have replicated our discoveries in several populations we publish them, a process which enables independent groups to analyze the role of our disease markers in yet more populations around the world and provides additional information we can then use to fold back into and expand the utility of our products.

Key new genetic risk factors for bladder cancer, skin cancer and thyroid cancer, and for lung cancer and nicotine dependence, are elements in the deCODEme Cancer™ scan. New genetic markers for risk of abdominal aortic and intracranial aneurysm and heart attack have been added to the company's well-established heart attack and atrial fibrillation/stroke markers in the deCODE MI™ test and the deCODEme Cardio™ scan. All of these discoveries, along with others in bone mineral density and osteoporosis, obesity, schizophrenia, essential tremor, and asthma, have provided an unrivalled series of replicated and validated updates for subscribers of deCODEme™.

We believe that DNA-based diagnostic tests are a new tool for improving disease prevention, and that they will be used in tandem with existing approaches to increase the success of prevention efforts. Common diseases occur at the interface of genetics and the environment, as both inherited as well as lifestyle and environmental risk factors play important roles in the disease process. Carrying a genetic risk variant for a common disease does not mean that one will necessarily develop the disease; and not having a certain risk variant does not eliminate all risk of developing the disease. Rather, in the common diseases, genetic risk variants impact the likelihood that one may develop a given condition. Understanding this inherited risk is empowering information with potentially important clinical utility, as it is possible to take preventive action—through lifestyle modification or by taking certain medications—to minimize the likelihood of an inherited predisposition ever developing into a disease. This is similar to the approach that is taken to address other risk factors for common diseases, such as high cholesterol, which is commonly treated using statin drugs to lower the risk of heart disease if dietary change is not enough.

We are actively marketing and working to secure reimbursement for these tests, even as we continue to bring new diagnostic products to market. These products are listed in the table below.

| Indication | Product | Launch date | Utility/Highlights |
|---|---|---|---|
| Type 2 diabetes | deCODE T2™ | April 2007 | • High-risk pre-diabetics can receive earlier lifestyle and pharmacologic intervention<br>• Validated in more than 60 populations |
| Atrial fibrillation/stroke | deCODE AF™ | July 2007 | • Post-stroke/TIA patients at risk of AF to obtain additional cardiac monitoring<br>• Patients with intermittent AF, family history and CHF to obtain additional cardiac monitoring<br>• Validated in more than 10 populations |
| Early-onset heart attack/ abdominal aortic aneurysm/intracranial aneurysm | deCODE MI™ | October 2007 | • Risk of early-onset MI to seek CVD assessment or prevention management<br>• Validated in more than 25 populations |
| Personal genome scan | deCODEme™ | November 2007 | • Launched with variants in 18 conditions; currently 30 conditions |
| Prostate cancer | deCODE ProstateCancer™ | February 2008 | • Validated common risk variants that are linked to more than 50% of all prostrate cancer cases<br>• Some variants included identify risk of aggressive forms of prostrate cancer<br>• Validated in more than 15 populations |
| Exfoliation glaucoma | deCODE Glaucoma™ | February 2008 | • Risk of exfoliant glaucoma<br>• Validated in more than 10 populations |
| Breast cancer | deCODE BreastCancer™ | October 2008 | • Tests 7 genetic risk variants<br>• Assesses risk of the most common forms of breast cancer, which represents 95% of all breast cancers.<br>• Validated in more than 10 populations |

Other DNA-based risk diagnostic tests currently in development include: melanoma, basal cell cancer, bladder cancer and lung cancer.

***Drug Development Programs***

deCODE has discovered and brought into clinical development several novel compounds in major disease areas and we are working to advance these compounds to the next phases of clinical testing through corporate partnerships. Over the past year we have pursued proprietary drug discovery work only in very select programs in which we believe we can advance innovative compounds that have major commercial potential and that are clearly differentiated from those under development by other companies. Our DG071 compound is an example of such a program. Our most advanced programs are

listed in the following table. Squares indicate the phases in which at least one clinical trial has been completed.

| Therapeutic area | Compound | IND | Phase I | Phase II | Phase III |
|---|---|---|---|---|---|
| *Cardiovascular* | | | | | |
| Heart attack | DG051 | ■ | ■ | Completed Phase IIa | |
| Arterial thrombosis (heart attack, vascular disease) | DG041 | ■ | ■ | ■ Additional clinical pharmacology studies completed in 2008 | |
| Heart attack | DG031 | ■ | ■ | ■ | Reformulation completed |
| *Cognitive Disorders* | | | | | |
| Alzheimer's and other cognitive disorders | DG071 | ■ | | | |

*DG041.* DG041 is being developed as an anti-platelet compound for the prevention of arterial thrombosis. DG041 is a first-in-class small molecule inhibitor of the EP3 receptor for prostaglandin E2, a G-protein coupled receptor (GPCR). It has been demonstrated by in vitro studies that PGE2 may have additive stimulatory effects on platelet aggregation beyond those of other potent agonists such as ADP or thromboxane A2, targeted by clopidogrel and aspirin, respectively.

Structure-based drug design has also been crucial in our DG041 program. The current mainstays of anti-thrombotic therapy are compounds that broadly inhibit platelet activation, with the result that they also cause increased bleeding risk and are therefore problematic for chronic use. In the discovery of DG041, deCODE began with a target—the EP3 receptor for prostaglandins E2—that the company's genetics and biology work had identified as a key modulator of arterial thrombosis. And the use of ligand-based drug design and crystallographic modeling of the PGE2 bound to EP3 enabled the discovery of DG041 as a very highly selective inhibitor of EP3.

Based on the results of our clinical studies thus far, DG041 appears to be well-tolerated, showing little difference in bleeding events between dosing arms and placebo, and to potentially offer focused means of preventing the formation of thrombi by specifically inhibiting platelet aggregation mediated by EP3. In the first half of 2008, we completed a second clinical pharmacology study examining the impact of DG041 on top of aspirin and Plavix™, the results of which show that DG041 blocks platelet aggregation and does not increase bleeding time when given alone, with Plavix™, or with Plavix™ and aspirin. We continue to engage in partnering discussions for advancing the development of DG041.

*DG051 and DG031.* We have two compounds in development for the prevention of heart attack, DG051 and DG031. These programs come out of our discovery of major risk variants in two genes encoding proteins in the leukotriene pathway. These variants—in the genes that code for leukotriene A4 Hydrolase (LTA4H) and 5-lipoxygenase activating protein (FLAP)—appear to confer risk in the same way: by causing an up regulation in the production of leukotriene B4, a potent pro-inflammatory molecule that is the end product of one branch of the pathway. The therapeutic goal of both compounds is to inhibit the activity of the pathway, lowering the production of LTB4 and thereby decreasing the inflammatory activity in atherosclerotic plaques and reducing the risk of heart attack. In

addition to reducing the risk of heart attack, these drugs may provide benefit in other inflammatory diseases.

DG051, discovered internally by deCODE's chemistry unit, is a small-molecule inhibitor of LTA4H, which is directly involved in the synthesis of LTB4. In 2007, we completed our Phase I program, the results of which demonstrated that DG051 was safe and well tolerated at all doses tested, has a pharmacokinetic profile suited for potential once-a-day dosing, and significantly reduces LTB4 levels in a concentration-dependent manner. We also concluded a Phase IIa study in late 2007, which demonstrated safety and tolerability and a significant reduction in LTB4, even at lower doses than were originally considered. deCODE has also in-licensed a FLAP inhibitor from Bayer AG, now known as DG031. Our Phase II clinical studies demonstrated that DG031 was well-tolerated and reduced production of LTB4 in a dose-dependent manner. This effect was seen on top of the effects of the current standard of care, which included statin therapy for a majority of patients in our trials. In 2006 we began a Phase III clinical trial for DG031, a trial which we voluntarily suspended because the drug tablets appeared to dissolve more slowly than anticipated, potentially providing lessening amounts of active drug the longer they were stored. We successfully reformulated the compound. We are currently seeking a partner with whom to take the next step in development of our leukotriene program.

*DG071.* DG071 is a novel, potent and selective PDE4D modulator discovered by deCODE's chemistry group. First and second generation PDE4 inhibitors such as rolipram, cilomilast, and roflumilast caused significant side effects, including nausea and vomiting, at therapeutic doses in human clinical trials. Such side effects severely limit the utility of these earlier compounds. Data generated at deCODE suggest that the observed side effects were closely correlated with the binding of these molecules in the PDE4 enzymatic active site competitively with cAMP. As cAMP is of critical importance to neuronal signaling, the goal of deCODE's program has been to discover compounds that would modulate PDE4 activity via an allosteric mechanism to improve safety and tolerability. Towards this goal, the deCODE biostructures team solved multiple novel co-crystal structures of PDE4D and PDE4B containing regulatory domains with bound ligands. Those structures allowed the deCODE chemistry team to identify a novel binding site for allosteric modulators in the PDE4 regulatory domain. Binding of an allosteric modulator at that site is non-competitive with cAMP. DG071 has been shown in animal models to improve cognitive function with benefit similar to that of cholinesterase inhibitors such as donepezil that currently are a mainstay of therapy for memory loss in early Alzheimer's disease, yet also benefiting long term memory function in animal tests where the cholinesterase inhibitors are ineffective.

The DG071 compound is being developed as a new and potentially safer means of targeting PDE4 to combat memory loss and cognitive deficits associated with Alzheimer's disease and other disorders in which neural signaling is reduced or impaired. In animal models, DG071 has been shown to significantly improve learning and long- and short-term memory at doses that offer a wide margin for safety and tolerability. The compound has the potential to eliminate the nausea that limits the utility of previous PDE4 inhibitors. In October 2008 we filed an IND application for DG071. We are seeking to advance the clinical development of DG071 with a strategic partner.

***Contract genotyping services***

At our research facility in Reykjavik, we have one of the largest and most advanced genotyping laboratory in the world. We have extensive expertise in microsatellite genotyping and also conduct genome-wide single nucleotide polymorphisms (SNP) association analyses. We utilize these capabilities both for in-house gene discovery work and contract genotyping services to fee paying customers. We have in place efficient, automated systems for all stages of the genotyping process, from DNA isolation and amplification to plate preparation and the generation, storage and analysis of volumes of genotypic data. Our customers for genotyping services include pharmaceutical companies, research consortia and

academic institutions. Our reference laboratory is Clinical Laboratory Improvement Act of 1998 as amended (CLIA) registered.

***Drug discovery and development services***

In order to offset the cost of maintaining its proprietary drug development infrastructure, deCODE utilizes its capabilities in chemistry, structural biology and clinical trials to offer contract services to fee-paying customers, principally pharmaceutical and biotechnology companies.

- Our chemistry subsidiary, deCODE chemistry, Inc., based in Woodridge, Illinois, provides a full range of drug discovery technology and services using multiple integrated high-throughput technologies to streamline the drug discovery process.
- Our structural biology subsidiary, deCODE biostructures, Inc., based in Bainbridge Island, near Seattle, determines three-dimensional X-ray crystal structures of target proteins for structure-based drug design and development.
- Our proteomics tools subsidiary, Emerald BioSystems, Inc., based in Bainbridge Island, commercializes a series of instruments, consumables and software products for structural proteomics research.

**Significant Collaborations**

We entered into an agreement with Roche to collaborate on four diseases that had been the subject of an earlier collaboration with Roche, which expired in February 2005. We signed an additional three-year agreement with Roche to co-develop inhibitors of PDE4 for the prevention and treatment of vascular disease, including stroke. This agreement focused on optimizing lead compounds identified under the previous agreement and expired in January 2008. We signed an agreement with Merck in February 2004 to conduct information-rich clinical trials on a range of Merck's developmental compounds that Merck selects for inclusion in the program. The term of the alliance is seven years, subject to termination by Merck after five years. Merck has not yet selected any compounds for such trials. We may receive milestone payments if any compounds or products derived through these collaborations progress through the development process as well as royalties on successfully marketed drugs.

In September 2004, we were awarded a five-year $23.9 million contract by the NIAID, part of the U.S. National Institutes of Health. Under the contract, we are applying our population approach and resources to discover genetic factors associated with susceptibility to certain infectious diseases and with responsiveness to vaccines targeting such diseases. The University of New Mexico is working with us to conduct functional validation of biological pathways discovered through our genetic research. The National Center for Genome Resources is providing bioinformatics resources to make study information and results available to the scientific community.

**Patents and Proprietary Rights**

Patents and other proprietary rights protections are an essential element of our business. We rely on patents, trade secret law and contractual non-disclosure and confidentiality arrangements to protect our proprietary information and technology. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary rights are covered by valid and enforceable patents, contractual confidentiality obligations, or if they are effectively maintained as trade secrets.

Accordingly, we actively seek patent protection in the United States and other jurisdictions to protect technology, inventions and improvements to inventions that are commercially important to the development of our business. These include, among other things, the compounds that we invent and

will develop as potential drugs, the genes and related drug targets we discover; mutations and variants of genes and related processes; new uses of existing third party compounds that may be used to manipulate those genes, mutations and drug targets; technologies which may be used to discover and characterize genes; therapeutic or diagnostic processes, tests and other inventions based on those genes; as well as methods, tools and software developed in our biostructures, Emerald BioSystems and pharmaceutical groups for the discovery and development of drugs. As of year-end 2008, we had approximately 36 issued U.S. patents and approximately 26 issued patents in non-U.S. jurisdictions. We also had approximately 55 pending patent applications in the U.S. as well as approximately 194 PCT national patent applications in non-U.S. jurisdictions that we have deemed to be of commercial interest.

We have filed a series of composition of matter type patent applications for the compounds we have discovered ourselves and are the main focus of our pre-clinical and clinical development, including DG041 DG051 and DG071. A US composition of matter patent covering DG051 was issued in 2008 (US 7,402,684). This patent expires in 2026. We have licensed from Bayer a composition of matter patent and a manufacturing process patent for DG031. The licensed patents expire in 2009 and 2012, respectively.

We have developed an aggressive filing strategy to protect our diagnostic products. All commercially important inventions are protected by patent applications prior to publication in scientific literature. Pending patent applications cover the use of genetic markers for risk prediction and risk management of many of the common diseases. Based on results from our discovery program, we have filed a large number of patent applications that disclose and claim markers that have been associated with risk of these diseases including markers that are the basis for currently marketed diagnostic tests as well as other diagnostic tests that we are currently developing.

We have filed patent applications for protecting the diagnostic tests we are currently marketing, including deCODE T2™, deCODE AF™, deCODE MI™, deCODE Glaucoma™, deCODE ProstateCancer™ and deCODE BreastCancer™. These patent applications claim the use of the markers used in individual diagnostic tests for determining increased risk of developing Type 2 Diabetes (T2™), Atrial Fibrillation (AF™), Myocardial Infarction (MI™), Glaucoma (Glaucoma™) Prostate Cancer (ProstateCancer™) and Breast Cancer (BreastCancer™). If granted and found to be valid and enforceable, we expect such patents to provide us with a strong position to defend our exclusive rights for marketing genetic tests and/or genotyping testing services within each jurisdiction.

We have also filed additional patent applications that claim specific uses of DG031 and other compounds with similar mode of action, and methods for selecting those patients that we believe are most likely to benefit from administration of those compounds due to their specific genetic composition. Such patents covering approved uses of DG031, if issued and found to be valid and enforceable, could extend the life cycle of DG031 for several years beyond the expiry of the patents that we licensed from Bayer. However, it is not certain that such patents will ultimately be issued, and even if issued, that they will be enforceable in infringement proceedings before the courts.

The United States Drug Price Competition and Patent Term Restoration Act of 1984, known as the Hatch-Waxman Act, provides for the restoration of up to 5 years of patent term for a patent that covers a new product or its use, to compensate for time lost from the effective life of the patent due to the regulatory review process of the FDA. An application for patent term restoration is subject to approval by the U.S. Patent and Trademark Office in conjunction with the FDA. While the composition of matter patent we licensed from Bayer that expires in 2009 would be eligible for patent term restoration, because we do not expect to receive FDA approval for DG031 prior to the expiration of the term of this patent, we will not benefit from applying for patent restoration with respect to that patent since any such restoration would run concurrently with any NCE marketing exclusivity we obtain, as discussed before. The manufacturing process patent we licensed from Bayer is not eligible for patent term restoration. The Hatch-Waxman Act also establishes a 5 year period of marketing

exclusivity from the date of NDA approval for new chemical entities (NCE) approved after September 24, 1984. We believe that DG031 is an NCE, and if the NDA for DG031 is approved, we expect to receive such marketing exclusivity. During the 5 year marketing exclusivity period for an NCE, a manufacturer that proposes to sell a generic version of DG031 may not submit to the FDA an ANDA or a paper NDA except that such applications may be submitted after 4 years if they contain a certification of patent invalidity or noninfringement. Thus, under the Hatch-Waxman Act, the combination of NCE marketing exclusivity and the 30 month stay may create as much as a 7½ exclusivity period for our marketing and sale of DG031.

Other jurisdictions have statutory provisions similar to those of the Hatch-Waxman Act that afford both patent extensions and market exclusivity for drugs that have obtained market authorizations, such as European Supplementary Protection Certificates that extend effective patent life and European data exclusivity rules that create marketing exclusivity for certain time periods following marketing authorization. European data exclusivity is more generous than the equivalent NCE marketing exclusivity in the U.S., providing exclusivity for as long as 11 years. We believe that if we obtain marketing authorization for DG031 in Europe or other jurisdictions with similar statutory provisions, DG031 may be eligible for patent term extension and marketing exclusivity under these provisions and we plan to seek such privileges.

**Competition**

We face, and will continue to face, intense competition in our gene discovery programs from pharmaceutical companies, biotechnology companies, universities and other research institutions. A number of entities are attempting to rapidly identify and patent genes responsible for causing diseases or an increased susceptibility to diseases and to develop products based on these discoveries.

We also face intense competition in drug development, particularly from pharmaceutical and biotechnology companies. Certain of these companies may, using other approaches, identify and decide to pursue the discovery and development of new drugs targets or disease pathways that we have identified through our human population genetics research. Many of our competitors, either alone or together with their collaborative partners, have substantially greater financial resources and larger research and development operations than we do. These competitors may discover, characterize or develop important genes, drug targets or drug leads before we or our collaborators do or may obtain regulatory approvals of their drugs more rapidly than we or our collaborators do.

Developments by others may render pharmaceutical product candidates or technologies that we or our collaborators develop obsolete or non-competitive. Any product candidate that we or our collaborators successfully develop may compete with existing therapies that have long histories of safe and effective use.

Our competitors may obtain patent protection or other intellectual property rights that could limit our rights, or our customers' ability, to use our technologies or databases, or commercialize therapeutic or diagnostics products. In addition, we face, and will continue to face, intense competition from other companies for collaborative arrangements with pharmaceutical and biotechnology companies, for establishing relationships with academic and research institutions and for licenses to proprietary technology.

Our ability to compete successfully will depend, in part, on our ability, and that of our collaborators, to: develop proprietary products; develop and maintain products that reach the market first, and are technologically superior to and more cost effective than other products on the market; obtain patent or other proprietary protection for our products and technologies; attract and retain scientific and product development personnel; obtain required regulatory approvals; and manufacture, market and sell products that we develop.

**Government Regulation**

Regulation by governmental authorities will be a significant factor in our ongoing research and development activities. In addition, the development, production and marketing of any pharmaceutical and diagnostic products which we or a partner may develop is subject to regulation by governmental authorities. Strict regulatory controls govern the pre-clinical and clinical testing, design, manufacture, labeling, supply, distribution, recordkeeping, reporting, sale, advertising and marketing of the products. These regulatory controls will influence our and our partners' ability to successfully manufacture and market therapeutic or diagnostic products.

Our success will depend, in part, on the development and marketing of products based on our research and development. Most countries require a company to obtain and maintain regulatory approval for a product from the relevant regulatory authority to enable the product to be marketed. Obtaining regulatory approval and complying with appropriate statutes and regulations is time-consuming and requires the expenditure of substantial resources.

In the United States we and our products are subject to comprehensive regulation by the United States Food and Drug Administration (FDA). The process required by the FDA before our drug products may be approved for marketing in the United States generally involves (i) pre-clinical new drug laboratory and animal tests, (ii) submission to the FDA of an investigational new drug (IND) application, which must become effective before clinical trials may begin, (iii) adequate and well-controlled human clinical trials to establish the safety and efficacy of the drug for its intended indication, (iv) submission to the FDA of a new drug application (NDA), (v) review by an advisory committee to FDA for recommendations regarding whether the NDA should be approved, and (vi) FDA review of the NDA in order to determine, among other things, whether the drug is safe and effective for its intended uses. There is no assurance that the FDA review process will result in product approval on a timely basis, if at all.

Pre-clinical tests include laboratory evaluation of product chemistry and formulation, as well as animal studies to assess the potential safety and efficacy of the product. Pre-clinical tests are generally subject to FDA regulations regarding Good Laboratory Practice. The results of the pre-clinical tests are submitted to the FDA as part of an IND and are reviewed by the FDA prior to the commencement of clinical trials or during the conduct of the clinical trials, as appropriate.

Clinical trials are conducted under protocols that detail such matters as the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND. Further, each protocol must be reviewed and approved by an institutional review board (IRB), and study subjects must provide informed consent to participation in the study. Clinical trials are subject to oversight by the IRB at each study site and by the FDA. An IRB or the FDA may prevent a study from being initiated, or may suspend or terminate studies once initiated.

Clinical trials are typically conducted in three sequential phases, which may overlap. During Phase I, when the drug is initially given to human subjects, the product is tested for safety, dosage tolerance, absorption, distribution, metabolism and excretion. Phase II involves safety, tolerability and efficacy of the product across a range of doses with the goal of identifying appropriate doses and patients for further study. Phase III trials are undertaken in order to further evaluate clinical efficacy and to further test for safety within an expanded patient population. The FDA may suspend clinical trials at any point in this process if it concludes that clinical subjects are being exposed to an unacceptable health risk.

Clinical trials must be conducted and monitored in accordance with good clinical practice (GCP) and other regulatory requirements. For applications to the FDA, clinical studies must be adequate and well controlled. Following the clinical trials, we will analyze the data and determine whether the clinical

trials successfully demonstrated the safety and efficacy of the product. If they do, we will prepare and submit a new drug application (NDA). The FDA conducts a preliminary review of the NDA to determine whether to file the application and begin substantive review, or to refuse to file the application on the ground that FDA considers it incomplete.

We will need FDA approval of our products, including a pre-approval inspection of the manufacturing processes and facilities used to produce such products to assess conformance with current good manufacturing practices (cGMP), before such products may be marketed in the United States. The FDA may also inspect the clinical trial sites to ensure their conformance with GCP. The process of obtaining approvals from the FDA can be costly, time-consuming and subject to unanticipated delays. There can be no assurance that the FDA will grant approvals of our proposed products, processes or facilities on a timely basis, if at all. Any delay or failure to obtain such approvals would have a material adverse effect on our business, financial condition and results of operations. Moreover, even if regulatory approval is granted, such approval may include conditions of approval such as additional studies or significant limitations on indicated uses for which a product could be marketed.

Among the conditions for NDA approval is the requirement that the prospective manufacturer's operating procedures conform to cGMP requirements, which must be followed at all times. In complying with those requirements, manufacturers (including a drug sponsor's third party contract manufacturers) must continue to expend time, money and effort in the area of production and quality control to ensure compliance. Domestic manufacturing establishments are subject to periodic inspections by the FDA in order to assess, among other things, cGMP compliance. To supply a product for use in the United States, foreign manufacturing establishments also must comply with cGMP and are subject to periodic inspection by the FDA or by regulatory authorities in certain other countries under reciprocal agreements with the FDA.

Both before and after approval is obtained, a product, its manufacturer and the holder of the NDA for the product are subject to comprehensive regulatory oversight. FDA regulations impose requirements for recordkeeping, periodic reporting, and reporting of adverse experiences with the product. Violations of regulatory requirements at any stage, including the pre-clinical and clinical testing process, the approval process, or thereafter (including after approval) may result in various adverse consequences, including the FDA's delay in approving or refusal to approve a product, withdrawal of an approved product from the market, seizure of the product, injunction against the company, and/or the imposition of criminal penalties against the manufacturer and/or NDA holder and/or officers and employees. In addition, later discovery of previously unknown problems may result in restrictions on such product, manufacturer or NDA holder, including withdrawal of the product from the market. Also, new government requirements may be established that could delay or prevent regulatory approval of our products under development.

The FDA has implemented accelerated approval procedures for certain pharmaceutical agents that treat serious or life-threatening diseases and conditions, especially where no satisfactory alternative therapy exists. We cannot predict the ultimate impact, however, of the FDA's accelerated approval procedures on the timing or likelihood of approval of any of our potential products or those of any competitor. In addition, the approval of a product under the accelerated approval procedures may be subject to various conditions, including the requirement to verify clinical benefit in post-marketing studies, and the authority on the part of the FDA to withdraw approval under streamlined procedures if such studies do not verify clinical benefit.

Diagnostic products are regulated as medical devices in the United States. Devices are subject to similar types of FDA regulatory controls and enforcement actions as apply to drugs, but many aspects of device regulation differ. Medical devices are classified into one of three classes, Class I, II or III, on the basis of their risk and the controls deemed necessary to assure their safety and effectiveness, with

Class I presenting the least risk. Regulatory controls for devices include labeling, recordkeeping, reporting, and adherence to the FDA's quality system requirements, or QSR, including good manufacturing practices.

Most Class I devices and some Class II devices are exempt from FDA premarket review. Most Class II devices and some Class III devices require FDA review and clearance of a premarket notification under Section 510(k) of the Federal Food, Drug, and Cosmetic Act (FDC Act) prior to marketing. A 510(k) notification must demonstrate that the device is substantially equivalent to a predicate device, which is a device marketed prior to 1976 or to a marketed device shown to be substantially equivalent under the 510(k) notification process. In addition, Class II devices are subject to special controls, such as performance standards, patient registries, and FDA guidance. Class III devices, and devices determined to be not substantially equivalent to a predicate device, require FDA approval of a premarket approval application (PMA) prior to marketing. A PMA must contain manufacturing data, pre-clinical data, and data from clinical testing that demonstrates the device is safe and effective for its intended use. The FDA may refer a PMA for review by an advisory panel of outside experts for a recommendation regarding approval. FDA approval of the PMA is required prior to marketing and distribution. The FDA may impose conditions of approval or restrictions on the sale, distribution, or use of the device.

The conduct of device clinical trials is subject to FDA regulation, including requirements for IRB approval, informed consent, recordkeeping, and reporting. In addition, a significant risk device requires FDA approval of an investigational device exemption (IDE) application. A nonsignificant risk device does not require IDE approval and is subject to abbreviated recordkeeping and reporting requirements. Significant risk devices include implants, life-supporting and life-sustaining devices, devices of substantial importance in diagnosing, curing, mitigating or treating disease, and devices that otherwise present a potential for serious risk to the health, safety, or welfare of a subject.

To the extent our diagnostic products may be intended for use as prognostic tests for selecting patients most likely to benefit from drug therapies, such products may be studied in the clinical trials of the related drug product under the regulatory provisions governing pharmaceutical clinical trials, but require a separate PMA approval or 510(k) clearance under the medical device requirements. The FDA's policy for co-development of therapeutic and diagnostic products is evolving, and changes in FDA's regulatory policy can affect the development, testing, regulatory approval pathway, and marketing of our products.

The FDA has developed special rules for *in vitro* reagents that are not approved or cleared as diagnostic products. The FDA has imposed restrictions on the manufacture, labeling, sale, distribution, advertising, promotion and use of analyte specific reagents (ASRs). The FDA defines ASRs as antibodies, specific receptor proteins, ligands, nucleic acid sequences, and similar reagents which, through specific binding or chemical reaction with substances in a specimen, are intended for use in a diagnostic application for identification and quantification of an individual chemical substance or ligand in biological specimens. An ASR can be used by a clinical laboratory to develop in-house laboratory assays if the laboratory is certified for high complexity testing under the Clinical Laboratory Improvement Act of 1998 as amended (CLIA). Most, but not all, ASRs are exempt from 510(k) premarket notification or PMA approval, and all are subject to good manufacturing practices (GMP) requirements and to the restrictions on their sale, distribution and use imposed by FDA regulation. In addition, the FDA regulates Research Use Only (RUO) diagnostic products, which by their mandatory labeling are not intended for use in diagnostic procedures. The clinical usefulness of RUO products is unknown and thus their use is limited to research purposes only. Diagnostic products and reagents that we develop now and in the future may be subject to these and other applicable FDA regulations.

For devices with an approved PMA, the manufacturer must submit periodic reports containing information on safety and effectiveness and other information specified in the FDA regulations, and

modifications to the product or its intended use can trigger the need to file a PMA Supplement for approval by the FDA. For devices with a cleared 510(k) notification, modifications to the device that can affect its safety or effectiveness may require the submission of a new 510(k) prior to marketing the modified device. All devices are subject to continuing regulation by the FDA, including record-keeping and reporting requirements, and reporting when a device may have caused or contributed to a death or serious injury or has malfunctioned in a way that would be likely to cause or contribute to a death or serious injury if the malfunction were to recur.

Product labeling and promotional activities for drug and device products are subject to scrutiny by the FDA, and products may be promoted only for their approved indications. Violations of promotional requirements for drugs and devices may also involve violations of the federal False Claims Act, anti-kickback laws, and other federal or state laws. In addition to the government bringing claims under the federal False Claims Act, *qui tam*, or "whistleblower," actions may be brought by private individuals on behalf of the government. Also, competitors may bring litigation under the Lanham Act or challenges under industry self-regulation groups relating to product advertising.

Clinical laboratory tests that are developed and validated by a laboratory for use in examinations the laboratory performs itself are called "Laboratory Developed Tests" (LDT's) tests. Most LDT's currently are not subject to premarket review by FDA. The DNA-based diagnostics we are offering are LDT's. As a clinical laboratory, we are required to hold certain federal, state and local licenses, certifications and permits to conduct our business. Under CLIA, we are required to hold a certificate applicable to the type of work we perform and to comply with standards covering personnel, facilities administration, quality systems and proficiency testing.

We operate under CLIA accreditation standards. To renew our CLIA certificate, we are subject to survey and inspection every two years to assess compliance with program standards. The standards applicable to the testing which we perform may change over time. We cannot assure you that we will be able to operate profitably should regulatory compliance requirements become substantially more costly in the future.

If our laboratory is out of compliance with CLIA requirements, we may be subject to sanctions such as suspension, limitation or revocation of our CLIA certificate, as well as directed plan of correction, state on-site monitoring, civil money penalties, civil injunctive suit or criminal penalties. We must maintain CLIA compliance and certification to be eligible to bill for services provided to Medicare beneficiaries. If we were to be found out of compliance with CLIA program requirements and subjected to sanction, our business could be harmed.

The European Community (EC) and EC member states maintain drug regulatory systems for medicinal products and medical devices that are comparable in their rigor to those in the United States. Clinical trials of medicinal products require government authorizations (based on evidence of safety from pre-clinical tests and other sources), must be reviewed and approved by ethics committees, and must be carried out in compliance with good clinical practice. There is no guarantee that permission will be granted for clinical trials of new medicinal products, and permission can be withdrawn if safety issues arise during a clinical trial.

Medicinal products may not be introduced to the market in the EC unless a marketing authorization has been granted by a competent authority. Marketing authorization applications for new chemical entities may be submitted to multiple EC member states under the mutual recognition system (which results in harmonized conditions of approval) or to the European Medicines Agency (EMEA), which administers a system that leads to a single marketing authorization that is valid in all EC member states. For certain new chemical entities, as well as all biotechnology products, submission to the EMEA is mandatory. Requirements for marketing authorization applications are similar to those for NDAs in the United States, including requirements for proof of safety, efficacy and quality. These requirements are demanding, and there is no assurance that a product for which a marketing

authorization application is submitted will be approved. Manufacturing facilities must also comply with EC requirements for good manufacturing practice, and if located in the EC must be licensed by the competent authority of the relevant member state. Requirements may be imposed for post-marketing studies, and there are detailed requirements for post-market surveillance of safety (pharmacovigilance). Advertising and promotion are scrutinized by authorities in each member state, and in some cases by the EMEA as well. Products may be removed from the market, permanently or temporarily, if safety questions arise, and there are only limited procedural requirements before such actions can be taken.

In addition to these controls under Medicines Law, most EC member states maintain some form of control over the pricing or reimbursement of medicinal products. In many member states, marketing may not commence until a price or reimbursement level has been determined, and in some member states products are also subject to cost-effectiveness reviews that can, for practical purposes, determine whether they will be utilized.

The EC maintains a separate system for medical devices, including *in vitro* diagnostic devices that may be developed in conjunction with medicinal products whose use depends on biomarkers. Manufacturers must meet requirements for quality control, which may entail interaction with quasi-governmental Notified Bodies, and comply with essential requirements and standards adopted under EC law. There is no harmonized system of control on the advertising and promotion of medical devices, and requirements vary from country to country. In addition, many EC member states maintain systems to evaluate new medical devices to determine whether they are cost-effective or otherwise appropriate for use in national health systems, other maintain other systems to control pricing or reimbursement of medical devices.

**Environmental**

deCODE's primary research facilities and laboratory are located in Reykjavik, Iceland. We operate under applicable Icelandic and European Union laws and standards, with which we believe that we comply, relating to environmental, hazardous materials and other safety matters. Our research and manufacturing activities involve the generation, use and disposal of hazardous materials and wastes, including various chemicals and radioactive compounds. These activities are subject to standards prescribed by Iceland and the EU. We do not believe that compliance with these laws and standards will have any material effect upon our capital expenditures, earnings or competitive position, or that we will have any material capital expenditures in relation to environmental control facilities for the remainder of this fiscal year or any succeeding fiscal year.

Our activities in the U.S. involve the controlled use of hazardous materials. We are subject to U.S. federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of such materials and certain waste products. Although we believe that our activities in the U.S. currently comply with the standards prescribed by such laws and regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. In the event of such an accident, we could be held liable for any damages that result and any such liability could exceed our resources. In addition, there can be no assurance that we will not be required to incur significant costs to comply with environmental laws and regulations in the future.

**Employees**

As of December 31, 2008, deCODE and all of its subsidiaries employed 331 full-time staff. Of the total number, approximately 142 were employed in the United States and 189 in Iceland. More than 70 held Ph.D. or M.D. degrees and approximately 185 held college degrees. 235 employees were engaged in, or directly supported, research and development activities, of whom 200 worked within the laboratory facilities and 35 held positions associated with the development and support of informatics. 72 employees were engaged in various professional support functions such as Finance, Business

Development, Legal, Communications, Human Resources and Clinical Collaborations, and 24 were employed in administrative support, facilities management, cleaning and security. In addition, we utilized part-time employees and outside contractors and consultants as needed and plan to continue to do so.

**Certain Financial Information**

***Research and Development and Cost of Revenue Expenses***

Our cost of research and development for 2008, 2007 and 2006, was $30.7 million, $53.8 million and $57.1 million, respectively.

Our cost of revenue for 2008, 2007 and 2006, was $52.5 million, $47.0 million and $42.7 million, respectively. Our cost of revenue, includes costs incurred in connection with collaborative programs and represents our customer-sponsored research and development activities.

***Geographic Information***

Long-lived assets located in the United States and Iceland were $22.3 million and $16.9 million, respectively, at December 31, 2008 and $23.5 million and $20.2 million, respectively, at December 31, 2007.

Revenues attributed to the United States and to Iceland were $21.0 million and $37.1 million, respectively, for 2008, $19.8 million and $20.6 million, respectively for 2007, and $16.8 million and $23.7 million, respectively, for 2006.

***Significant Customers***

Historically, a substantial portion of deCODE's revenue has been derived from contracts with a limited number of significant customers. Roche accounted for approximately 0%, 5% and 17% of the company's consolidated revenue in 2008, 2007 and 2006, respectively. Divisions of the National Institute of Health (NIH) represented 22%, 22% and 33% of consolidated revenue in 2008, 2007 and 2006, respectively. The European Community (EC) represented 7%, 14% and 8% of consolidated revenue in 2008, 2007 and 2006, respectively. The loss of any significant customer may substantially lower deCODE's revenues which could affect the resources available to support our drug discovery programs.

**Item 1A.** ***Risk Factors***

In addition to the other information contained in this Form 10-K, you should consider the following risk factors in evaluating our business and prospects. We also note that this annual report on Form 10-K contains forward-looking statements. These statements relate to future events or our future financial performance. In some cases, forward-looking statements can be identified by terminology such as "may, "should," "could," "expect," "plan," "anticipate," "believe," "estimate," "predict," "intend," "potential" or "continue" or the negative of such terms or other comparable terminology. These statements are only expectations. We cannot assure our investors that our expectations and assumptions will prove to have been correct. We undertake no intention or obligation to update or revise any forward-looking statements, whether as a result of future events, new information or otherwise. Actual events or results may differ materially due to a number of factors, including those set forth in this section and elsewhere in this Form 10-K.

These factors include, but are not limited to, the risks set forth below.

**Risks Related to Our Business**

***We are confronted by serious liquidity concerns which threaten our operations.***

As of the date hereof, we have very limited financial resources. Our operations to date have consumed substantial amounts of cash and will continue to require substantial amounts of cash in the future. We are evaluating our alternatives for addressing this situation, which include primarily the sale of business units and programs, the sale or licensing of products and intellectual property, the entry into corporate partnerships and the restructuring of our debt together with new financing. Given our current liquid assets we have resources to continue operations only into the second quarter of 2009 and must obtain further financial resources in order to continue operations beyond this time. While negotiations regarding various alternatives are ongoing, we cannot provide any assurance that such negotiations will be completed within the time, or in a manner, that will enable us to continue operations.

Our liquidity situation has resulted in risks and uncertainties affecting our operations and the execution of our business plan, including the following:

- we may not be able to obtain and maintain normal terms with vendors and service providers;
- we may not be able to maintain contracts, including contracts with fee-paying customers, that are critical to our operations;
- our ability to retain management and other key individuals may be negatively affected; and
- actions and decisions of our creditors and other third parties with interests in our financial status may be inconsistent with our plans.

We have identified and disclosed in Note 1 to our consolidated financial statements a number of factors that raise substantial doubt about our ability to continue as a going concern. If we become unable to continue as a going concern, we would have to liquidate our assets, and we might realize significantly less than the values at which they are carried on our financial statements. The funds resulting from the liquidation of our assets would be used first to pay off the debt owed to creditors before any funds would be available to pay our stockholders, and any shortfall in the proceeds would directly reduce the amounts available for distribution, if any, to our creditors and to our stockholders. In the event we were required to liquidate, it is unlikely that stockholders would receive any value for their shares.

The report of our independent registered public accounting firm on the accompanying financial statements contains an explanatory paragraph regarding going-concern uncertainty. The accompanying financial statements do not include any adjustments or charges that might be necessary should we be unable to continue as a going concern, such as charges related to impairment of our assets, the recoverability and classification of assets or the amounts and classification of liabilities or other similar adjustments. If we are not able to continue as a going concern, it is likely that investors will lose all or a part of their investment.

***If we commence a Chapter 11 bankruptcy proceeding, operating under the U.S. Bankruptcy Code may restrict our ability to pursue our business strategies and may not result in a successful reorganization.***

As discussed above, if our Board of Directors concludes that a bankruptcy proceeding will facilitate our ability to obtain necessary financing, we will commence a proceeding under Chapter 11 of the U.S. Bankruptcy Code. During any Chapter 11 proceeding, our operations, including our ability to execute our business plan, would be subject to the risks and uncertainties associated with bankruptcy, in

addition to the risks and uncertainties described about resulting from our liquidity situation. Risks and uncertainties associated with a Chapter 11 proceeding include the following:

- we may be unable to arrange debtor-in-possession financing or otherwise finance our operations during bankruptcy;
- the costs of the Chapter 11 proceedings will reduce amounts available to fund our business operations;
- actions and decisions of our creditors and other third parties with interests in our Chapter 11 proceedings may be inconsistent with our plans;
- we may not be able to obtain court approval with respect to motions in the Chapter 11 proceedings prosecuted from time to time;
- third parties may seek and obtain court approval to terminate or shorten the exclusivity period for us to propose and confirm a plan of reorganization, to appoint a Chapter 11 trustee or to convert the case to a Chapter 7 case; and
- we may not be able to develop, and obtain requisite court and creditor approval of, a viable Chapter 11 plan of reorganization

These risks and uncertainties could affect our business and operations in various ways. For example, negative events or publicity associated with a Chapter 11 proceeding could adversely affect our relationship with our customers, as well as with vendors and employees, which in turn could adversely affect our operations and financial condition, particularly if the Chapter 11 proceedings are protracted. Also, transactions outside of the ordinary course of business are subject to the prior approval of the Bankruptcy Court, which may limit our ability to respond timely to certain events or take advantage of certain opportunities.

If we were unable to develop a plan of reorganization or if such a plan were not confirmed by the Bankruptcy Court, we could have to liquidate our assets, in which case it would be unlikely that stockholders would receive any value for their shares. In addition, if confirmed, a plan of reorganization could result in holders of our common stock receiving no distribution on account of their interests and cancellation of their existing stock.

***If we are able to continue operations in the near term, we will continue to require sufficient additional funding to meet our capital requirements; if we are not able to obtain such financing, we may be forced to reduce or terminate our research and product development programs and abandon portions of our intellectual property.***

We have spent substantial amounts of cash to fund our research and development activities and expect to continue to spend substantial amounts for these activities over the next several years. Many factors, including which, if any, assets we sell in order to obtain funds to continue operations in the near future and which of our business units and properties we retain, will influence our future capital needs, including:

- the number, breadth and progress of our discovery and research programs;
- our ability to attract customers;
- our ability to commercialize our discoveries and the resources we devote to commercialization;
- the amount we spend to enforce patent claims and other intellectual property rights; and
- the costs and timing of regulatory approvals.

We have relied on, and may continue to rely on, revenues generated by our corporate alliances and fee-paying customers for significant funding of our research efforts. Historically, a substantial portion of our revenue has been derived from contracts with a limited number of significant customers. Roche accounted for approximately 0%, 5% and 17% of the company's consolidated revenue in 2008, 2007 and 2006, respectively. Divisions of the National Institute of Health (NIH) represented 22%, 22% and 33% of consolidated revenue in 2008, 2007 and 2006, respectively. The European Community (EC) represented 7%, 14% and 8% of consolidated revenue in 2008, 2007 and 2006, respectively. The loss of any significant customer may significantly lower deCODE's revenues which could affect the resources available to support our product discovery and development programs.

In addition, we may seek additional funding through public or private equity offerings and debt financings. We may not be able to obtain additional financing when we need it or the financing may not be on terms favorable to us or our stockholders. Stockholders' ownership will be diluted if we raise additional capital by issuing equity securities. The going concern qualification from our independent registered public accounting firm may make it more difficult for us to raise funds.

If we raise additional funds through collaborations and licensing arrangements, we may have to relinquish rights to some of our technologies or product candidates, or grant licenses on unfavorable terms. If adequate funds are not available, we would have to scale back or terminate our discovery and research programs and product development.

***If we are able to continue operations in the near term but continue to incur operating losses longer than anticipated, or in amounts greater than anticipated, we may be unable to continue our operations.***

We incurred a net loss of $80.9 million, $95.5 million and $85.5 million in 2008, 2007 and 2006, respectively, and had an accumulated deficit of $712.2 million at December 31, 2008. We have never generated a profit and we have not generated significant revenues except for payments received in connection with our research and development collaborations with Roche, Merck and others, from contract services, Emerald BioSystems products and instruments, and under grants. Our research and development expenditures and general and administrative costs have exceeded our revenue to date, and we expect to spend significant additional amounts to develop our diagnostics and deCODEme™ products and services, fund research and development in order to enhance our core technologies and undertake product development (including drug development and related clinical trials). We do not expect to receive royalties or other revenues from commercial sales of products developed using our technology in the near term. It may be several years before product revenues materialize, if they do at all. As a result, we expect to incur net losses for several years. If the time required to generate product revenues and achieve profitability is longer than we currently anticipate or the level of losses is greater than we currently anticipate, we may not be able to continue our operations.

***We may be adversely impacted by economic factors beyond our control and may incur additional impairment charges to our investment portfolio.***

As of December 31, 2008, we had $33.5 million of principal invested in auction rate securities ("ARS"), all of which are classified as non-current investments on our balance sheet. These investments represent interests in debt obligations, namely life insurance wrapped issues, of companies offering credit derivatives, and of entities on which monoline insurers retain capital put rights. The remaining ARS investments are generally collateralized by pools of commercial paper, investment-grade corporate debt, asset and mortgage-backed securities, government and money-market issues and other ARS. Consistent with our investment policy guidelines, all of the ARS investments were rated as investment grade (at least A or better) at the time of purchase and subsequent to year end remain rated as investment grade. The estimated market value of our non-current ARS holdings at December 31, 2008 was $12.7 million, which reflects a $20.8 million adjustment to the principal value of $33.5 million. Although the ARS continue to pay interest according to their stated terms, based on valuation models

and an analysis of other-than-temporary impairment factors, we have recorded a further impairment charge of $12.1 million and $7.8 million in the years ended December 31, 2008 and 2007, respectively.

In January, 2009, we sold the ARS to an Icelandic financial institution for an aggregate price of approximately $11.0 million. We have the call option to require the financial institution to sell the securities back to us at any time prior to December 31, 2009, and the financial institution has the put option to require us to repurchase the securities upon the earlier of (a) the sale of all or a majority of the stock of deCODE genetics ehf, our Icelandic subsidiary, ("IE") or a specified part of the operations of IE or (b) December 31, 2009, in each case for a specified price. For accounting purposes this transaction will be reflected as a secured borrowing and, as such, these ARS investments will remain on our balance sheet. The credit and capital markets continue to be volatile. If uncertainties in credit and capital markets continue, these markets deteriorate further or the estimated value of these ARS continue to decline, we may incur additional impairments, realized or unrealized, to our investment portfolio, which could negatively affect our financial condition, cash flows and reported earnings. In addition, these uncertainties may make it difficult, if not impossible, for us to obtain funding.

***We may not successfully develop or derive revenues from any products.***

We use our technology and research capabilities to develop small molecule drugs and predictive diagnostic tests. Although we have identified genetic variations that we believe are likely to cause certain diseases and some of our drugs in development are based on these discoveries, we may not be correct and may not be successful in identifying any other similar genetic variants or in completing the development or marketing of drugs or diagnostics based on these discoveries. Most of the diseases we are targeting are caused by both genetic and environmental factors. Even if we identify specific genetic factors that are partly responsible for causing diseases, any diagnostic or therapeutic products we develop as a result of our genetics work may not detect, prevent, treat or cure a particular disease. We have also identified compounds in our discovery operations derived from our structural biology and protein crystallography work. These programs are not derived from any genetic targets or links but do face the same challenges as any product discovery or development programs. Any pharmaceutical or diagnostic products that we or our collaborators are able to develop will fail to produce revenues unless we:

- establish that they are safe and effective;
- successfully compete with other technologies and products;
- ensure that they do not infringe on the proprietary rights of others;
- establish that they can be manufactured in sufficient quantities at reasonable costs;
- obtain and maintain regulatory approvals for them; and
- can market them successfully.

We may not be able to meet these conditions. We expect that it will be years, if ever, before we will recognize significant revenue from the development of therapeutic or diagnostic products.

***Our diagnostic tests may not be profitable.***

We have only recently begun to market our diagnostic tests. Our ability to derive profits from our diagnostic tests will depend, among other things, on

- the willingness of physicians and patients to use our diagnostic products, particularly in light of the fact that our products predict only a statistical probability, rather than a certainty, that an individual will develop a disease;
- the extent to which third-party insurance or other reimbursement becomes available and, in its absence, the willingness of patients to pay for the tests themselves;
- our ability to develop a sales and marketing capacity for the products;
- the development by us or others of drugs that will delay or prevent the development of the diseases addressed by our diagnostic tests; and
- our continued compliance with applicable regulatory requirements.

As a result of these factors, we cannot predict whether or to what extent we will be able to derive a profit from the sale of diagnostic tests.

***deCODEme™ may not be profitable.***

We have only recently begun to market deCODEme™. Our ability to derive profits from this product will depend, among other things, on

- the degree of consumer interest in the data provided by deCODEme™ ;
- our ability to price this product at a level that is acceptable to potential users;
- the extent to which third-party insurance or other reimbursement, which is currently not available for the tests, becomes available and, in its absence, the willingness of patients to pay for the tests themselves; and
- our ability to compete with providers of similar services.

We cannot yet gauge market acceptance of this product and do not know if we will be able to derive a profit from it.

***We rely on a single laboratory facility to process our diagnostic test and deCODEme™.***

We rely on a single CLIA-registered laboratory facility in Reykjavik, Iceland to process our diagnostic tests and deCODEme™. This facility and certain pieces of laboratory equipment would be difficult to replace and may require significant replacement lead-time. This facility may be affected by natural disasters such as earthquakes, floods and fires. In the event our clinical testing facility or equipment is affected by man-made or natural disasters, we would be unable to continue our molecular diagnostic business and meet customer demands for a significant period of time. Although we maintain insurance on this facility, including business interruption insurance, it may not be adequate to protect us from all potential losses if this facility were damaged or destroyed. In addition, any interruption in our diagnostic business would result in a loss of goodwill, including damage to our reputation. If our diagnostic business were interrupted, it would seriously harm our ability to develop this aspect of our business.

***Concerns regarding the use of genetic testing results may limit the commercial viability of our diagnostic products and deCODEme™.***

Medical professionals and the public have expressed concerns about potential misuses of genetic testing. It is possible that employers or others could discriminate against people who have a genetic predisposition to certain diseases. Concern regarding possible discrimination may result in governmental authorities enacting restrictions or bans on the use of all, or certain types of, genetic testing. Similarly, such concerns may lead individuals to refuse to use genetic tests even if permissible. In addition, there have been increasing calls by medical professionals and the public for regulation of consumer genetic testing products, such as deCODEme™ and similar products of our competitors, which are currently not subject to FDA regulation. These factors may limit the market for, and therefore the commercial viability of, our diagnostic products and deCODEme™.

***We may not be able to continue development of our lead compounds through Phase II and Phase III clinical trials unless we are able to form and maintain collaborative relationships for these products.***

We have several therapeutic products in various stages of clinical development, including one product that has completed Phase II testing and two products in various stages of Phase II testing. Our current business plan for financing continued development of these products requires us to enter into collaborations with third parties for the continued development of these products. We will not be able to form such collaborations unless we are able to convince our potential partners that

- clinical trials for our products have a reasonable possibility of succeeding;
- we have adequate intellectual property protection for our products;
- our products are more likely to achieve commercial success than competing products at a similar stage of development;
- our novel targets meet their risk profile.

For these reasons, we cannot be certain that we will be able to continue the development of these products. Furthermore, any collaborations that we form will be subject to the additional risks described below under "Risks Related to Our Collaborative Relationships."

***If our assumption about the role of genes in diseases is wrong, we may not be able to develop certain products.***

Some of the products we hope to develop, like DG041 and DG051 are based on our gene discovery work and involve new and unproven approaches in the identification of the targets they address. They are based on the assumption that information about genes may help scientists to better understand complex disease processes. Scientists generally have a limited understanding of the role of genes in diseases, and few products based on gene discoveries have been developed. Of the products that exist, all are diagnostic products. If our assumption about the role of genes in the disease process is wrong, we may not be able to commercialize any therapeutic products the targets for which came originally from our gene discovery work.

***In order to conduct clinical trials and to market our drugs, we will have to develop methods to produce these drugs using approved methods and at commercially viable rates.***

In order to conduct clinical trials and ultimately to market any drugs we may develop, we or our third party contractors will need to obtain chemicals and components, and in some cases licenses for proprietary formulation technology, necessary for the manufacture of the products from third parties. We or our contractors will then need to implement the necessary technology in order to produce the drugs to exacting standards set by us and the regulatory bodies. This is an uncertain and time

consuming process, and any disruption in it may delay or harm our ability to continue clinical development. For drugs which have reached the last stage of clinical trials, we or our contractors will have to develop methods to scale up the production of the drug at commercially viable rates. If we are not able to scale the process in a timely manner or do not have the ability to produce the drug economically, we may not be able to enter the market with a viable product. This would harm our financial and commercial prospects.

***If we cannot successfully form and maintain suitable arrangements with third parties for the manufacturing of the products we may develop, our ability to develop or deliver products may be impaired.***

We have no experience in manufacturing products for commercial purposes and do not have manufacturing facilities that can produce sufficient quantities of drugs for large scale clinical trials. Accordingly, we must either develop such facilities, which will require substantial additional funds, or rely on contract manufacturers for the production of products for development and commercial purposes.

The manufacture of our products for clinical trials and commercial purposes is subject to Good Manufacturing Practices (cGMP) regulations promulgated by the FDA. The manufacture of diagnostic products is subject to the FDA's quality system requirements (QSR). In the event that we are unable to develop satisfactory manufacturing facilities or obtain or retain third party manufacturing for our products, we will not be able to commercialize such products as planned. We may not be able to enter into agreements for the manufacture of future products with manufacturers whose facilities and procedures comply with cGMP, QSR and other regulatory requirements. Our current dependence upon others for the manufacture of our products may adversely affect our ability to develop and deliver such products on a timely and competitive basis and, in the longer term, the profit margin, if any, on the sale of future products and our ability to develop and deliver such products on a timely and competitive basis.

***Clinical trials required for our product candidates and partners are expensive and time-consuming, their outcome is uncertain and we may not achieve our projected development goals in the timeframes we have announced and expect.***

Before obtaining regulatory approvals for the commercial sale of any of our products under development, we must demonstrate through pre-clinical studies and clinical trials that the product is safe and effective for use in each target indication. Pre-clinical testing and clinical development are long, expensive and uncertain processes. It may take several years to complete testing for a product and failure can occur at any stage of testing. The length of time necessary to complete clinical trials varies significantly and may be difficult to predict. Factors that can cause delay or termination of our clinical trials include:

- slower than expected patient enrollment due to the nature of the protocol, the proximity of patients to clinical sites, the eligibility criteria for the study, competition with clinical trials for other drug candidates or other factors;
- lower than expected retention rates of patients in a clinical trial;
- delayed approval of study protocol and pharmacogenomic components of studies by regulatory agencies in different countries, some of which are still developing policies with respect to pharmacogenomic testing;
- inadequately trained or insufficient personnel at the study site to assist in overseeing and monitoring clinical trials;
- delays in approvals or failure to obtain approval from the pertinent review boards or regulatory authorities;

- longer treatment time required to demonstrate effectiveness or determine the appropriate product dose;
- lack of sufficient supply of the product candidate;
- adverse medical events or side effects in treated patients;
- lack of effectiveness of the product candidate being tested; and
- regulatory changes.

Even if we obtain positive results from pre-clinical or clinical trials for a particular product, we may not achieve the same success in future trials of that product. In addition, some or all of the clinical trials we undertake may not demonstrate sufficient safety and efficacy to obtain the requisite regulatory approvals, which could prevent the creation of marketable products. Our product development costs will increase if we have delays in testing or approvals, if we need to perform more or larger clinical trials than planned, or if our trials are not successful. Delays in our clinical trials may harm our financial results and the commercial prospects for our products.

***The commercial success of any products that we may develop will depend upon the degree of market acceptance among physicians, patients, healthcare payors and the medical community.***

Any products that we may develop may not gain market acceptance among physicians, patients, healthcare payors and the medical community. If these products do not achieve an adequate level of acceptance, we may not generate material product revenues and we may not become profitable. The degree of market acceptance of any of our drug candidates, if approved for commercial sale, will depend on a number of factors, including:

- demonstration of efficacy and safety in clinical trials;
- the prevalence and severity of any side effects;
- potential or perceived advantages over alternative treatments;
- the timing of market entry relative to competitive treatments;
- the ability to offer our product candidates for sale at competitive prices;
- relative convenience and ease of administration;
- the strength of marketing and distribution support;
- sufficient third party coverage or reimbursement; and
- the product labeling or product insert required by the FDA or regulatory authorities in other countries.

***If we cannot successfully develop a marketing and sales force or maintain suitable arrangements with third parties to market and sell our diagnostic and therapeutic products, our ability to deliver products may be impaired.***

We currently have no experience in selling therapeutic products and limited experience in selling our reference laboratory risk-predictive diagnostic tests. In order to achieve commercial success, we must either develop a larger marketing and sales force, which will require significant additional funds and personnel, or where appropriate, enter into arrangements with third parties to market and sell our diagnostic and therapeutic products. We have made limited investment in sales and marketing for diagnostic products, and might not be successful in developing marketing and sales capabilities in-house. Further, we may not be able to enter into marketing and sales agreements with others on acceptable terms, and any such arrangements, if entered into, may be terminated.

If we develop our own marketing and sales capability, it will compete with other companies that currently have experienced, well-funded and larger marketing and sales operations. To the extent that we enter into co-promotion or other sales and marketing arrangements with other companies, revenues will depend on the efforts of others, which may not be successful.

***Our reliance on the Icelandic population may limit the applicability of our discoveries to certain populations.***

The genetic make-up and prevalence of disease generally varies across populations around the world. Common complex diseases generally occur with a similar frequency in Iceland and other European populations. However, populations from other continents or with ancestry principally from other continents may be genetically predisposed to certain diseases because of genetic variants not present in the Icelandic population, of the genetic variants we discover in Iceland may occur with a different frequency or have a different impact on disease risk in other populations. As a result, we and our partners may be unable to develop products that are effective on all or a portion of people with such diseases. For our business to succeed, we must be able to apply discoveries that we make on the basis of the Icelandic population to other markets.

***If a substantial portion of participants in our genetics research studies withdraw their informed consent, our ongoing research may suffer.***

We depend on the willingness of Icelandic volunteers to participate in our genetics research studies. All of the participants in our genetic studies have signed an informed consent form, which gives deCODE permission to process data and blood samples that the participant has donated for research purposes. Participants may at any time revoke this permission by withdrawing their consent. If, for any reason, a substantial portion of participants in our studies were to withdraw their consent, we would not be able to continue population genetic research in some or all of the diseases that we are studying. This would diminish our ability to develop new products based on these discoveries. If our ability to use population genetic data is impaired, we also may not be able to fulfill some contractual obligations with our partners.

***If we fail to protect confidential data adequately, we could incur a liability.***

Under laws and regulations in force in Iceland, including applicable European laws, directives and regulations, all information on individuals that is used in our population research is anonymized under the protocols and supervision of the Data Protection Authority of Iceland. If we fail to comply with these laws and regulations, we could lose public support for participation in our research and we could be liable to legal action. Any failure to comply fully with all confidentiality requirements could lead to liability for damages incurred by individuals whose privacy is violated, the loss of our customers and reputation and the loss of the goodwill and participation of the Icelandic population, including healthcare professionals. These eventualities could materially adversely affect our work in Iceland.

***Some parts of our product development services create a risk of liability from clinical trial participants and the parties with whom we contract.***

Through our wholly owned subsidiary Encode ehf. (sold during 2008), we conducted clinical trials of products we are developing and contracted with drug companies and clinical research organizations to perform a wide range of services to assist them in bringing new drugs to market. Prior to the sale of Encode, our services included:

- supervising clinical trials;
- data and laboratory analysis;
- patient recruitment; and
- acting as investigators in conducting clinical trials.

If, in the course of these trials or activities,

- we did not perform our services to contractual or regulatory standards;
- we failed to obtain permission to conduct trials from the appropriate authorities in Iceland;
- patients or volunteers suffer personal injury caused by or death from adverse reactions to the test drugs or otherwise;
- there were deficiencies in the professional conduct of the investigators with whom we contract;
- our laboratories inaccurately reported or failed to report lab results; or
- our informatics products violated rights of third parties,

then we could be held liable for these eventualities by the regulatory agencies or the drug companies and clinical research organizations with whom we contract or by study participants. We maintain product liability insurance for claims arising from the use of products we are developing in clinical trials conducted by Encode and are covered by the product liability insurance of the drug companies and clinical research organizations for which we provided clinical trial services for claims arising from the use of their products in such trials. Such insurance may be inadequate and in any event would not cover the risk of a customer deciding not to do business with us as a result of poor performance or claims for a customer's financial loss as the result of our failure to perform our contractual obligations properly.

***Use of therapeutic or diagnostic products developed as a result of our programs may result in product liability claims for which we have inadequate insurance.***

The users of any therapeutic or diagnostic products developed by us or our collaborators as a result of our discovery or research programs (including participants in our clinical trials) may bring product liability claims against us. While we currently carry liability insurance to cover such claims, we are not certain that we, or our collaborators, where appropriate, will be able to maintain such insurance. If we cannot protect against potential liability claims, we or our collaborators may find it difficult or impossible to commercialize products.

***Our fee-for-service work bears certain risks of liability to our customers.***

Our subsidiaries, deCODE chemistry, Inc., deCODE biostructures, Inc., and Emerald BioSystems, Inc., provide services, equipment and products (including software) for third party customers who pay us on a fee-for-service or product basis. In this function, we often synthesize compounds, manufacture active pharmaceutical ingredient material and provide recommendations for research direction for our customers. We also provide contract research services in X-ray crystallographic structure determination of protein-ligand complexes for customers, and often recommend targets to customers based on these determinations. In addition, we sell instruments and software to these customers.

We may be liable to our customers for damages if we perform such services negligently or with willful misconduct, or if we provide customers with defective products, equipment or software. We also may be held liable for failure to meet specifications or failure to comply with other contractual conditions. While our agreements with customers limit our liability and while we carry general commercial liability insurance, such contractual limitations may not be effective in the event of our material breach of the agreements, gross negligence, or willful misconduct and such insurance may not be adequate. We also supply compounds for clinical trials conducted by our customers. In doing so, we may provide materials requiring certification of compliance with cGMP regulations applicable to production of such materials. If we are found not to have complied with such requirements, we may incur liabilities related to such failures. If participants in these trials suffer personal injury or death

from adverse reactions to the test drugs, we could be held liable to our customers or the participants. We maintain product liability insurance for claims arising from the use of products we supply. However, such insurance may be inadequate. Failure to perform to customer expectation also may limit future business from our existing customers, or could result in the holdback of certain payments due to us. We integrate software and products purchased or licensed from third parties suppliers into certain of our products, equipment and software sold to our customers. While we evaluate such items for defects and possible intellectual property infringement issues, and attempt to obtain contractual protections from suppliers, in the event any such items purchased or licensed from suppliers are defective or violate intellectual property rights of third parties, we may not be able to fully recover any of our damages or our customers' damages from suppliers of such items.

Our facilities where work for customers is conducted are subject to audits by the FDA and by customers. In the event we are found in non-compliance by the FDA, there is a risk that such facility may be subject to corrective measures up to and including the closure of the facility. Such closure would have impact on our ability to meet customer obligations as well as obligations relating to our internal programs. Customer audits may lead to disputes regarding compliance with contractual terms, which could lead to potential disputes and/or liabilities as described above.

In addition, we typically have the obligation to maintain the confidentiality of proprietary information of our customers. While we have systems in place to ensure that such confidentiality is protected, we do conduct work on our internal projects at the same facilities where we work for our customers; therefore, there is an increased risk that customers may claim that we have violated our confidentiality obligations or used their proprietary information in our proprietary projects.

***Increased leverage as a result of our convertible debt may harm our financial condition and results of operations.***

On December 31, 2008 we had $242.6 million of outstanding debt (including capital lease and finance obligations) as reflected in our balance sheet. Pursuant to generally accepted accounting principles, this amount is net of $14.0 million original issue discount related to the issuance of $80 million face amount of 3.50% Senior Convertible Notes in November 2006. We may incur additional indebtedness in the future and neither our 3.50% Senior Convertible Notes issued in 2004 nor our 3.50% Senior Convertible Notes issued in 2006 (collectively, the "Notes") restrict our future issuance of indebtedness. Our level of indebtedness will have several important effects on our future operations, including, without limitation:

- a portion of our cash flow from operations will be dedicated to the payment of any interest required with respect to outstanding indebtedness;
- increases in our outstanding indebtedness and leverage will increase our vulnerability to adverse changes in general economic and industry conditions, as well as to competitive pressure; and
- depending on the levels of our outstanding debt, our ability to obtain additional financing for working capital, capital expenditures, general corporate and other purposes may be limited.

Our ability to make payments of principal and interest on our indebtedness depends upon our future performance, which will be subject to the success of our development and commercialization of new pharmaceutical products, general economic conditions, industry cycles and financial, business and other factors affecting our operations, many of which are beyond our control. If we are not able to generate sufficient cash flow from operations in the future to service our debt, we may be required, among other things:

- to seek additional financing in the debt or equity markets;
- to refinance or restructure all or a portion of our indebtedness, including the Notes;

- to sell selected assets; or
- to reduce or delay expenditures on planned activities, including but not limited to clinical trials, and development and commercialization activities.

Such measures might not be sufficient to enable us to service our debt. In addition, any such financing, refinancing or sale of assets might not be available on economically favorable terms.

***We may be unable to hire and retain the key personnel upon whom our success depends.***

We depend on the principal members of our management and scientific staff, including Dr. Kari Stefansson, Chairman, President and Chief Executive Officer. We have not entered into agreements with any of these people that bind them to a specific period of employment. If any of these people leave, our ability to conduct our operations may be negatively affected. Our future success also will depend in part on our ability to attract, hire and retain additional personnel. There is intense competition for such qualified personnel and we cannot be certain that we will be able to continue to attract and retain such personnel. Failure to attract and retain key personnel could have a material adverse effect on us.

***Currency fluctuations may negatively affect our financial condition.***

We primarily expend and generate cash in U.S. dollars, our functional currency. We also publish our consolidated financial statements in U.S. dollars. Currency fluctuations can affect our financial results because a portion of our cash reserves, our debt and our operating costs are in Icelandic kronas. A fluctuation of the exchange rates of the Icelandic krona against the U.S. dollar can thus adversely affect the "buying power" of our cash reserves and revenues. Most of our long-term liabilities are U.S. dollar denominated. However, we may enter into hedging transactions if we have substantial foreign currency exposure in the future.

***Our contracts may terminate upon short notice.***

Many of our contracts for research services are terminable on short notice. This means that our contracts could be terminated for numerous reasons, any of which may be beyond our control, such as a reduction or reallocation of a customer's research and development budget or a change in a customer's overall financial condition. The loss of a large contract or multiple smaller contracts, or a significant decrease in revenue derived from a contract, could significantly reduce our profitability and require us to reallocate under-utilized physical and professional resources.

**Risks Related to Our Collaborative Relationships**

***If we are unable to form and maintain the collaborative relationships that our business strategy requires, our programs will suffer and we may not be able to develop products.***

Our strategy for developing products and deriving revenues from them is dependent, in part, upon our ability to enter into collaborative arrangements with research collaborators, corporate partners and others. We may rely on these arrangements both to provide funding necessary to our product development and to obtain goods and services that we require for our product development. If our collaborations are not successful or if we are not able to manage multiple collaborations successfully, our programs may suffer. If we increase the number of collaborations, it will become more difficult to manage the various collaborations successfully and the potential for conflicts among the collaborators as to rights to the technology and products generated under work conducted with us will increase.

***Dependence on collaborative relationships may lead to delays in product development, product defects and disputes over rights to technology.***

We have formed, and may in the future form additional, collaborative relationships (including relationships with clinical research organizations to conduct clinical trials on our behalf) that will, in some cases, make us dependent on collaborators for the pre-clinical studies and/or clinical trials and for regulatory approval of any products that we are developing. Failure of such collaborators to perform under these agreements properly in a timely manner, or at all, may lead to delays in our product development. In addition, if participants in the trials conducted by our collaborators suffer personal injury or death as a result of actions of the collaborators, we could be held liable. In some cases, our agreements with collaborators typically allow them significant discretion in electing whether and how to pursue such activities. We cannot control the amount and timing of resources collaborators will devote to these programs or potential products. In addition, collaborative agreements may contain exclusivity provisions that may prevent us from working in a particular field or on a particular disease even when our collaborators elect not to pursue activities under the agreements.

Our collaborators may stop supporting our products or providing services to us if they develop or obtain rights to competing products. Disputes may arise in the future over the ownership of rights to any technology developed with collaborators. These and other possible disagreements between our collaborators and us could lead to delays in the collaborative research, development or commercialization of products. Such disagreements could also result in litigation or require arbitration to resolve.

**Risks Related to Our Industry**

***We may not be able to compete successfully with other companies and government agencies in the development and marketing of products and services.***

A number of companies are attempting to rapidly identify and patent genes that cause diseases or an increased susceptibility to diseases. Competition in this field and our other areas of business, including product discovery and development, is intense and is expected to increase. We have numerous competitors, including major pharmaceutical and diagnostic companies, specialized biotechnology firms, universities and other research institutions, and other government-sponsored entities and companies providing healthcare information products. Our collaborators, including Roche and Merck, may also compete with us. Many of our competitors, either alone or with collaborators, have considerably greater capital resources, research and development staffs and facilities, and technical and other resources than we do, which may allow them to discover important genes or develop drugs based on such discoveries before we do. We believe that a number of our competitors are developing competing products and services that may be commercially successful and that are further advanced in development than our potential products and services. Even if we or our collaborators are successful in developing effective products or services, our products and services may not successfully compete with those of our competitors, including cases where the competing drugs use the same mechanism of action as our products. Our competitors may succeed in developing and marketing products and services that are more effective than ours or that are marketed before ours.

Competitors have established, and in the future may establish, patent positions with respect to gene sequences related to our research projects. Such patent positions or the public availability of gene sequences comprising substantial portions of the human genome could decrease the potential value of our research projects and make it more difficult for us to compete. We may also face competition from other entities in gaining access to DNA samples used for research and development purposes. Our competitors may also obtain patent protection or other intellectual property rights that could limit our rights, or our customers' ability, to use our technologies or databases, or commercialize therapeutic or diagnostics products. In addition, we face, and will continue to face, intense competition from other companies for collaborative arrangements with pharmaceutical and biotechnology companies, for establishing relationships with academic and research institutions and for licenses to proprietary technology.

We expect competition to intensify as technical advances are made and become more widely known. Our future success will depend in large part on maintaining a competitive position in the genomic field. Rapid technological development may result in products or technologies becoming obsolete before we recover the expenses we incur in developing them.

Our ability to compete successfully will depend, in part, on our ability, and that of our collaborators, to:

- develop proprietary products;
- develop and maintain products that reach the market first, and are technologically superior to, and more cost effective than, other products on the market;
- obtain patent or other proprietary protection for our products and technologies;
- attract and retain scientific and product development personnel;
- obtain required regulatory approvals; and
- manufacture, market and sell products that we develop.

***Changes in outsourcing trends and economic conditions in the pharmaceutical and biotechnology industries could adversely affect our growth.***

Economic factors and industry trends that affect our primary customers, pharmaceutical and biotechnology companies, also affect our business. For example, the practice of many companies in these industries has been to outsource to organizations like us the conduct of genetic research, clinical research, sales and marketing projects and chemistry and structural biology research and development projects. If these industries reduce their present tendency to outsource those projects, our operations, financial condition and growth rate could be materially and adversely affected. These alliances and arrangements are both time consuming and complex and we face substantial competition in establishing these relationships. In addition, our ability to generate new business could be impaired by general economic downturns in our customers' industries. We have experienced increasing pressure on the part of our customers to reduce expenses, including the use of our services as a result of negative economic trends generally and in the pharmaceutical industry. If pharmaceutical and biotechnology companies discontinue or decrease their usage of our services, for example, as a result of an economic slowdown or increased competition from outsourcing companies in India and China, our revenues and earnings could be lower than we expect, and our revenues may decrease or not grow at historical rates.

***If regulatory approvals for our products are not obtained, we will not be able to derive revenues from these products.***

Government agencies must approve new drugs and diagnostic products in the countries in which they are to be marketed. We cannot be certain that we can obtain regulatory approval for any drugs or diagnostic products resulting from our discovery programs. (Currently we are marketing six diagnostic reference laboratory tests. These are exempt from current FDA approval processes, since each test is considered to be a LDT's. The regulatory process can take many years and require substantial resources. Because some of the products likely to result from our disease research programs involve the application of new technologies and may be based upon a new therapeutic approach, various government regulatory authorities may subject such products to substantial additional review. As a result, these authorities may grant regulatory approvals for these products more slowly than for products using more conventional technologies. Furthermore, regulatory approval may impose limitations on the use of a drug or diagnostic product.

Even if a product is approved for marketing, it and its manufacturer must undergo continuing review. Discovery of previously unknown problems with a product may require the performance of

additional clinical trials or the change of the labeling of the product and may have adverse effects on our business, financial condition and results of operations, including withdrawal of the product from the market.

***Third party reimbursement and healthcare reform policies may reduce market acceptance of our products.***

Our success will depend in part on the price and extent to which we will be paid for our products by government and health administration authorities, private health insurers and other third party payers. Reimbursement for newly approved healthcare products is uncertain. Third party payers, including Medicare in the United States, are increasingly challenging the prices charged for medical products and services. They are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement for new therapeutic products. We cannot be certain of the extent, if any, to which any third party insurance coverage will be available to patients for products we discover or develop. If third party payers do not provide adequate coverage and reimbursement levels for our products, the market acceptance of these products may be materially reduced.

Numerous governments have undertaken efforts to control growing healthcare costs through legislation, regulation and voluntary agreements with medical care providers and pharmaceutical companies. If cost containment efforts limit the profits that can be derived from new drugs, our customers may reduce their research and development spending which could reduce the business they outsource to us.

***Our corporate compliance program cannot guarantee that we are in compliance with all applicable federal and state regulations in the United States, Iceland, the European Union and elsewhere.***

The development, manufacturing, distribution, pricing, sales, marketing and reimbursement of our products, together with our general operations are subject to extensive federal and state regulations in the United States and national or supra-national laws and regulations in Europe and other parts of the world. While we have developed and instituted a corporate compliance program based on current best practices, we cannot assure you that we or our employees are or will be in compliance with all potentially applicable regulations and/or laws. If we fail to comply with any of these regulations and/or laws, a range of actions could result, including, but not limited to, the termination of clinical trials, the failure to approve a product candidate, restrictions on our products or manufacturing processes, including withdrawal of our products from the market, significant fines, exclusion from government healthcare programs or other sanctions or litigations.

***Our operations involve a risk of injury or damage from hazardous materials, and if an accident were to occur, we could be subject to costly and damaging liability claims.***

In the course of our work, we handle and produce hazardous materials and chemicals as well as compounds which may have known or unknown characteristics such as toxicity and reactivity with other compounds. Although we have systems in place to manage such compounds and their characteristics, the risk of accidental contamination or injury from these materials cannot be completely eliminated. Any such contamination or injury could result in negative effects to our personnel or facilities, which could lead to liabilities as well as impacting our ability to meet customer obligations and conduct our internal programs.

**Risks Related to Our Intellectual Property**

***We may not be able to protect the proprietary rights that are critical to our success.***

Our success will depend in part on our ability to protect our products, our genealogy database and genotypic data and any other proprietary databases that we develop and our proprietary software and

other proprietary methods and technologies. Despite our efforts to protect our proprietary rights, unauthorized parties may be able to obtain and use information that we regard as proprietary.

While we require employees, business partners, academic collaborators and consultants to enter into confidentiality agreements, there can be no assurance that proprietary information will not be disclosed, that others will not independently develop substantially equivalent proprietary information and techniques, otherwise gain access to our trade secrets or disclose such technology, or that we can meaningfully protect our trade secrets.

Our commercial success will depend in part on obtaining patent protection. The patent positions of pharmaceutical, biopharmaceutical and biotechnology companies, including deCODE, are generally uncertain and involve complex legal and factual considerations that are constantly evolving. We cannot be sure that:

- any of our pending patent applications will result in issued patents;
- we will develop additional proprietary technologies that are patentable;
- any patents issued to us or our partners will provide a basis for commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties; or
- the patents of others will not have an adverse effect on our ability to do business.

If we are unable to obtain patent protection for our technology or discoveries, the value of our proprietary resources may be adversely affected.

In addition, patent law relating to the scope of claims in the area of genetics and gene discovery is still evolving and subject to uncertainty, including in areas important to us such as patenting of discoveries for the development of therapeutic methods, diagnostic methods and products that predict inherited susceptibility to diseases and diagnostic methods and products that predict drug response and disease progression. Accordingly, the degree of future protection for our proprietary rights is uncertain and, we cannot predict the breadth of claims allowed in any patents issued to us or others. We could also 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 to enforce our own patents against potential infringers.

Others may have filed and in the future are likely to file patent applications covering products or technology that are similar or identical to our products and technology. The fact that patent applications of others may not publish until they issue as patents in the United States, or are not published until 18 months after filing in the United States and other jurisdictions may have adverse effect on our own patent filings and business, particularly if they claim subject matter similar to that of our clinical programs. In addition, others may develop competitive products outside the protection that may be afforded by the claims of our patents. We cannot be certain that our patent applications will have priority over any patent applications of others. The mere issuance of a patent does not guarantee that it is valid or enforceable; thus even if we are holding or are granted patents, we cannot be sure that they would be valid and enforceable against third parties. Further, a patent does not provide the patent holder with freedom to operate in a way that infringes the patent rights of others. Any legal action against us or our partners claiming damages and seeking to enjoin commercial activities relating to the affected products and processes could, in addition to subjecting us to potential liability for damages, require us or our partners to obtain a license in order to continue to manufacture or market the affected products and processes. There can be no assurance that we or our partners would prevail in any action or that any license required under any patent would be made available on commercially acceptable terms, if at all. If licenses are not available, we or our partners may be required to cease marketing our products or practicing our methods.

If expressed sequence tags, SNPs, or other sequence information become publicly available before we apply for patent protection on the uses of a corresponding full-length partial gene or associated

genetic markers, our ability to obtain patent protection for uses of those genes or gene sequences could be adversely affected. In addition, other parties are attempting to rapidly identify and characterize genes through the use of SNP genotyping, gene expression analysis and other technologies. If any patents are issued to other parties on these partial or full-length genes or gene products or uses for such genes or gene products, the risk increases that the sale of our or our collaborators' potential products or processes may give rise to claims of patent infringement. The amount of supportive data required for issuance of patents for human therapeutics is highly uncertain. If more data than we have available is required, our ability to obtain patent protection could be delayed or otherwise adversely affected. Even with supportive data, the ability to obtain patents is uncertain in view of evolving examination guidelines, such as the utility and written description guidelines that the USPTO has adopted. Moreover, patenting of genes and their uses faces considerable public opposition as demonstrated by the submission of the recent introduction in the U.S. House of Representatives of a bill entitled "Genomic Research and Accessibility Act", which seeks to ban the practice of patenting genes found in nature. Enactment of this bill into law could adversely affect our abilities to attain patent protection for some of our genetic inventions.

***Our patent applications covering DG041 and DG071 have not issued yet as patents.***

We have filed composition of matter type patent applications covering DG041, DG051 and DG071 in the United States as well as international applications through the Patent Cooperation Treaty. However, these patent applications are in the early stages of patent prosecution before the United States Patent and Trademark Office (USPTO) and other patent offices and, other than the issued US patent covering DG-051 (US Patent 7402684) we have no certainty or indication from the USPTO that these patent applications will issue as patents. The USPTO is currently facing considerable backlog for examining pending patent applications so considerable time may elapse before we will have more certainty as to the patentability of the compounds. Should the USPTO (or any other national patent offices where we choose to file applications) ultimately reject our patent applications covering these compounds, or should others have filed or obtained issued patent covering the same, the value and potential of these programs for our business would be adversely affected.

***Any patent protection we obtain for our products may not prevent marketing of similar competing products.***

Patents on our products may not prevent our competitors from designing around and developing similar compounds or compounds with similar modes of action that may compete successfully with our products. Such third party compounds may prove to be superior to our products or gain wider market acceptance and thus adversely affect any revenue stream that we could otherwise expect from sales of our products.

***Any patents we obtain may be challenged by producers of generic drugs.***

Patents covering innovative drugs, which are also commonly referred to as "branded drugs" or "pioneer drugs," face increased scrutiny and challenges in the courts from manufacturers of generic drugs who may receive benefits such as limited marketing co-exclusivity if the challenge is successful. Such patent challenges typically occur when the generic manufacturer files an Abbreviated New Drug Application with the FDA and asserts that the patent or patents covering the branded drug are invalid or unenforceable, forcing the owner or licensee of the branded drug to file suit for patent infringement. If any patents we obtain covering our pharmaceutical products are subject to such successful patent challenges, our marketing exclusivity may be eliminated or reduced in time, which would thus adversely affect any revenue stream that we could otherwise expect from sales of our products.

**Risks Related to Investing in Our Common Stock**

***Our common stock may be de-listed from Nasdaq, which could seriously limit its liquidity.***

On February 4, 2009, the listing of our common stock was transferred from the Nasdaq Global Market to the Nasdaq Capital Market as a result of our inability to comply with Marketplace Rule 4450(b)(1)(A) which requires a minimum $50 million market value of listed securities for continued inclusion on the Nasdaq Global Market. The transfer was made pursuant to a decision of the Nasdaq Listing Qualifications Panel (the "Panel") following our hearing before the Panel on December 18, 2008. If we cannot demonstrate compliance with all the requirements for continued listing on the Nasdaq Capital Market, including the $35 million market value of listed securities requirement, by April 29, 2009, our shares of common stock will be subject to immediate delisting from The Nasdaq Stock Market. There can be no assurance that we will be able to meet the requirements for continued listing. If our common stock is delisted, it would seriously impair stockholders' ability to trade their shares, limit the liquidity of our common stock and impair our ability to raise capital through the sale of our common stock, which could seriously harm our business, especially in light of our need to raise substantial additional capital to continue our operations.

***Future sales of common stock may dilute our stockholders.***

We may sell common stock in the future in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock in more than one transaction, existing stockholders who previously purchased stock may be materially diluted by subsequent sales of common stock.

***The price of our common stock is volatile and the market value of your investment may decrease.***

The market prices for common stock of biotechnology and pharmaceutical companies, including ours, have historically been highly volatile, and the market has from time to time experienced significant price and volume fluctuations that are unrelated to the actual performance of particular companies. In addition to the various risks described elsewhere in this Form 10-K, the following factors could have an adverse effect on the market price of our common stock:

- fluctuations in our operating results;
- announcement of technological innovations or new therapeutic products by us or others;
- clinical trial results;
- developments concerning agreements with collaborators;
- actual or threatened litigation;
- governmental regulation and regulatory actions;
- changes in patent laws;
- developments concerning patent or other proprietary rights;
- public concern as to the safety of drugs developed by us or others;
- future sales of substantial amounts of common stock by existing stockholders; and
- general market conditions and economic and other external factors, including disasters, wars and other crises.

***We may issue preferred stock with rights that could affect your rights and prevent a takeover of the business.***

Our board of directors has the authority, without further approval of our stockholders, to fix the rights and preferences, and to issue up to 6,716,666 shares of preferred stock. In addition, Delaware corporate law imposes limitations on certain business combinations. These provisions could, under certain circumstances, delay or prevent a change in control of deCODE and, accordingly, could adversely affect the price of our common stock.

***We currently do not intend to pay dividends on our common stock and consequently, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.***

We currently do not plan to pay dividends on shares of our common stock in the near future. Consequently, your only opportunity to achieve a return on your investment in our company will be if the market price of our common stock appreciates.

**Item 1B.** ***Unresolved Staff Comments***

None

**Item 2.** ***Properties***

Our headquarters are in Iceland in an approximately 150,000 square-foot, three-story building, used both for our laboratories and offices. The building is leased under a 15 year operating lease expiring in 2020. We also lease a total of 31,000 square feet in a building at Krokhals 5, Reykjavik, to house additional laboratory facilities and storage. The Krokhals 5 property is also leased under a 15 year operating lease expiring in 2020.

Our principal executive offices and discovery laboratories in the United States are located in Woodridge, Illinois, and encompasses approximately 103,000 square feet with the capability to expand our offices and laboratories to 200,000 square feet. The building is leased under a 17 year lease, expiring in 2024 with 2 five year renewal options.

We lease approximately 19,000 square feet of office and laboratory space in Bainbridge Island, Washington.

We lease approximately 5,100 square feet of office space in Brighton, Michigan which houses our product development group.

**Item 3.** ***Legal Proceedings***

Other than claims and legal proceedings that arise form time to time in the ordinary course of business which are not material, deCODE has no pending legal proceedings except as follows:

On or about April 20, 2002, an amended class action complaint, captioned *In re deCODE genetics, Inc. Initial Public Offering Securities Litigation* (01 Civ. 11219(SAS)), alleging violations of federal securities laws in connection with deCODE's initial public offering was filed in the United States District Court for the Southern District of New York (the "District Court") on behalf of certain purchasers of deCODE common stock. The complaint names deCODE, two individuals who were executive officers of deCODE at the time of its initial public offering (the "Individual Defendants"), and the two lead underwriters (the "Underwriter Defendants") for our initial public offering in July 2000 (the "IPO") as defendants. deCODE is aware that similar allegations have been made in hundreds of other lawsuits filed (many by some of the same plaintiff law firms) against numerous underwriter defendants and issuer companies (and certain of their current and former officers) in connection with various public offerings conducted in recent years. All of the lawsuits that have been filed in the Southern District of New York have been consolidated for pretrial purposes before United

States District Judge Shira Scheindlin. Pursuant to the underwriting agreement executed in connection with our IPO, deCODE has demanded indemnification from the Underwriter Defendants. The Underwriter Defendants have asserted that our request for indemnification is premature.

Pursuant to an agreement the Individual Defendants have been dismissed from the case without prejudice.

On July 31, 2003, our Board of Directors (other than our Chairman and Chief Executive Officer, who recused himself because he was an Individual Defendant) approved a proposed partial settlement with the plaintiffs in this matter, subject to a number of conditions, including the participation of a substantial number of other issuer defendants in the proposed settlement, the consent of deCODE's insurers to the settlement, and the completion of acceptable final settlement documentation. A settlement fairness hearing was held on April 24, 2006. On June 25, 2007, the United States District Court for the Southern District of New York entered an order formally denying the motion for final approval of the settlement agreement because the settlement class could not be certified. On August 14, 2007, the plaintiffs filed their second consolidated amended class action complaints against the "focus cases" and on September 27, 2007, again moved for class certification. The focus cases are a small group of cases that were selected as test cases due to the large number of nearly identical actions which were consolidated in the Initial Public Offering litigation. The court has indicated that the focus cases are intended to provide strong guidance for the other cases. The case involving deCODE is not a focus case. On November 12, 2007, certain of the defendants in the focus case moved to dismiss the second consolidated amended class action complaints. On March 26, 2008, the District Court denied the motions to dismiss except as to Section 11 claims raised by those plaintiffs who sold their securities for a price in excess of the initial offering price and those who purchased outside the previously certified class period. Briefing on the class certification motion was completed in May 2008. That motion was withdrawn without prejudice on October 10, 2008. On February 25, 2009, liaison counsel for the plaintiffs informed the district court that a settlement has been agreed to in principle, subject to formal approval by the parties, and preliminary and final approval by the court.

Due to the inherent uncertainties of litigation, deCODE cannot accurately predict the ultimate outcome of this matter. While deCODE's expenses in this matter to date have been paid primarily by its insurers, if deCODE were required to pay significant monetary damages as a result of an adverse determination in this matter (or any other lawsuits alleging similar claims filed against deCODE and deCODE's directors and officers in the future), deCODE's business could be significantly harmed. Even if such litigation concludes in deCODE's favor, deCODE may be required to expend significant funds to defend against the allegations. deCODE is unable to estimate the range of possible loss from this litigation and no amounts have been provided for it in deCODE's financial statements.

**Item 4.** ***Submission of Matters to a Vote of Security Holders***

None.

## PART II

**Item 5.** ***Market for the Company's Common Equity and Related Stockholder Matters***

Our common stock was traded on the Nasdaq Global Market under the symbol "DCGN" until February 4, 2009. Effective February 4, 2009 our common stock is traded on the Nasdaq Capital Market under the same symbol. The following table sets forth, for the calendar periods indicated, the range of high and low sale prices for the common stock on the Nasdaq Global Market:

| | High | Low |
|---|---|---|
| **2007** | | |
| First Quarter | $4.60 | $3.36 |
| Second Quarter | $4.61 | $3.20 |
| Third Quarter | $4.50 | $3.25 |
| Fourth Quarter | $4.41 | $2.90 |
| **2008** | | |
| First Quarter | $3.96 | $1.53 |
| Second Quarter | $1.80 | $0.77 |
| Third Quarter | $1.88 | $0.37 |
| Fourth Quarter | $0.74 | $0.15 |

On February 4, 2009, the listing of our common stock was transferred from the Nasdaq Global Market to the Nasdaq Capital Market as a result of our inability to comply with Marketplace Rule 4450(b)(1)(A) which requires a minimum $50 million market value of listed securities for continued inclusion on the Nasdaq Global Market. The transfer was made pursuant to a decision of the Nasdaq Listing Qualifications Panel (the "Panel") following our hearing before the Panel on December 18, 2008. If we cannot demonstrate compliance with all the requirements for continued listing on the Nasdaq Capital Market, including the $35 million market value of listed securities requirement, by April 29, 2009, our shares of common stock will be subject to immediate delisting from The Nasdaq Stock Market. There can be no assurance that we will be able to meet the requirements for continued listing. If our common stock is delisted, it would seriously impair stockholders' ability to trade their shares, limit the liquidity of our common stock and impair our ability to raise capital through the sale of our common stock, which could seriously harm our business, especially in light of our need to raise substantial additional capital to continue our operations.

We have neither declared nor paid dividends on our common stock since our inception and do not plan to pay dividends in the foreseeable future. Any earnings that we may realize will be retained to finance our growth.

As of March 25, 2009, there were 4,008 holders of record of the Common Stock.

**Item 6.** ***Selected Financial Data***

The following selected consolidated financial data should be read in conjunction with our consolidated financial statements and the notes to those statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this Annual Report. The following data with regard to the consolidated balance sheets and the related statements of operations and cash flows have been derived from our audited consolidated financial statements. Consolidated balance sheets at December 31, 2008 and 2007 and the related statements of operations and cash flows for each of the three years in the period ended December 31, 2008 and the notes thereto appear elsewhere in this annual report.

| | Year Ended December 31, | | | | |
|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | 2005 | 2004 |
| | (Tabular amounts in thousands, except share and per share amounts) | | | | |
| Revenue | $ 58,095 | $ 40,403 | $ 40,510 | $ 43,955 | $ 42,127 |
| Operating expenses: | | | | | |
| Cost of revenue | 52,517 | 47,018 | 42,660 | 37,263 | 43,407 |
| Research and development | 30,726 | 53,825 | 57,108 | 43,748 | 24,942 |
| Selling, general and administrative | 28,318 | 27,139 | 25,206 | 20,118 | 20,187 |
| Total operating expenses | 111,561 | 127,982 | 124,974 | 101,129 | 88,536 |
| Operating loss | (53,466) | (87,579) | (84,464) | (57,174) | (46,409) |
| Interest income | 2,489 | 6,541 | 6,685 | 6,397 | 2,903 |
| Interest expense | (16,467) | (15,641) | (7,808) | (7,484) | (8,983) |
| Other non-operating income and (expense), net | (13,503) | 1,153 | 114 | (4,489) | (4,766) |
| Net loss | $(80,947) | $(95,526) | $(85,473) | $(62,750) | $(57,255) |
| Basic and diluted net loss per share | $ (1.32) | $ (1.57) | $ (1.49) | $ (1.17) | $ (1.07) |
| Shares used in computing basic and diluted net loss per share | 61,376 | 61,018 | 57,465 | 53,824 | 53,423 |

| | As of December 31, | | | | |
|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | 2005 | 2004 |
| | (In thousands) | | | | |
| Cash and cash equivalents | $ 3,701 | $ 54,172 | $ 21,882 | $ 65,943 | $ 70,238 |
| Investments (including non-current) and restricted cash | 18,221 | 39,886 | 130,134 | 89,611 | 128,082 |
| Total assets (1) | 75,137 | 156,208 | 215,609 | 206,758 | 288,252 |
| Total long-term liabilities | 267,593 | 267,601 | 247,490 | 190,572 | 197,950 |
| Total stockholders' (deficit) equity (1) | (221,076) | (145,650) | (55,379) | (9,337) | 52,396 |

(1) In January 2006, deCODE completed the acquisition of Urdur Verandi Skuld ehf. (UVS) in stock-for stock exchange accounted for as a purchase transaction. Total consideration for the acquisition was $6,137,000. deCODE's Statements of Operations include the results of UVS from January 17, 2006, the date of acquisition.

**Item 7.** ***Management's Discussion and Analysis of Financial Condition and Results of Operations***

This Management's Discussion and Analysis of Financial Condition and Results of Operations as of December 31, 2008 and for each of the three years in the period then ended should be read in conjunction with the audited consolidated financial statements and notes thereto set forth elsewhere in this report.

This Annual Report on Form 10-K contains forward-looking statements, including our expectations of future industry conditions, strategic plans and forecasts of operational results. Various risks may cause our actual results to differ materially. A list and description of some of the risks and uncertainties is contained below and in the summary of risk factors included in Item 1A.

Headquartered in Reykjavik, Iceland, deCODE is a bio-pharmaceutical company developing products to improve the treatment, diagnosis and prevention of common diseases. deCODE applies its capabilities in chemistry and structural biology to the development of drugs and its discoveries in human genetics to bring to market DNA-based reference laboratory tests and consumer genome analysis services to assess individual risk of common diseases.

Through our structural biology and chemistry units based in the United States, we can develop new and detailed understanding of the structure and binding sites of drug targets. This makes it possible to discover compounds that may have superior safety and tolerability profiles than existing drugs. deCODE has fully integrated capabilities ranging from targeted *in vitro* and model organism biology through cGMP manufacturing for clinical trials. For the development of disease-risk diagnostics we have comprehensive population resources and one of the largest genotyping facilities in the world, enabling our scientists to isolate key genes and gene variants contributing to common diseases. Based on these discoveries, we are developing and marketing DNA-based tests gauging individual risk of disease. With near-term value creation in mind, our core focus in 2008 was on building our genomic services business (which includes diagnostics, deCODEme and scientific services). At the same time, we sought to advance our therapeutics programs through partnerships.

At December 31, 2008, we had liquid funds available for operating activities (cash and cash equivalents together with current investments) of $3.7 million as compared to $64.2 million at December 31, 2007. The net utilization of liquid funds in the year ended December 31, 2008 was $60.5 million. In January 2009 we entered into an agreement with an Icelandic financial institution (NBI hf) pursuant to which NBI has purchased all auction rate securities ("ARS") owned by deCODE for an aggregate price of approximately $11.0 million. We believe we have sufficient resources to sustain our operations only into the second quarter of 2009.

To address deCODE's immediate need for funds, management and the Board of Directors are exploring the possibililities of (i) selling some or all of deCODE's U.S, subsidiaries and/or its diagnostics and deCODEme businesses based in Iceland, (ii) granting licenses to specific diagnostic products, (iii) entering into a collaboration for gene sequencing, (iv) selling some or all of deCODE's clinical and pre-clinical drug discovery programs, (v) restructuring deCODE's outstanding convertible notes and (vi) obtaining new equity financing. Closing on opportunities in (ii) and (vi) could provide cash flow to meet immediate needs. Achieving (v) could result in either a cash settlement of deCODE's convertible note obligation for substantially less than the carrying amount or in a conversion of the convertible notes into equity of deCODE. Receipt of additional equity financing to support operations in the longer term depends in large part on the outcomes of actions in (ii), (iii) and (v). Management and the board are having ongoing dialogues and negotiations with third parties in each of these areas. If deCODE's Board of Directors concludes that any of these options can be better implemented in a bankruptcy proceeding, deCODE will commence a proceeding under Chapter 11 of the U.S. Bankruptcy Code. Whether in a bankruptcy proceeding or otherwise, the consummation of any of these approaches are dependent on successful negotiations with third parties and in many cases the availability of financing to such third parties. There can be no asssurance that any potential transactions

will be consummated or will result in sufficient funding to sustain operations. If deCODE is unable to raise additional capital through one or more of these options, it will be able to continue operations only into the second quarter of 2009 and thereafter may be forced to discontinue its operations and liquidate its remaining assets.

*Diagnostics.* We are applying our discoveries and unique expertise in human genetics and genotyping to the development of reference laboratory DNA-based tests for assessing individual risk of a growing range of common diseases. Since April 2007 we have launched six reference laboratory DNA-based diagnostic tests to detect single-letter variations in the human genome (called SNPs) that we have linked to increased risk of several common diseases:

- *deCODE T2™*—which detects SNPs we discovered to be associated with increased risk of type 2 diabetes
- *deCODE AF™*—which detects SNPSs we discovered to be associated with increased risk of atrial fibrillation and stroke
- *deCODE MI™*—which detects SNPs we discovered to be associated with early-onset heart attack, (myocardial infarction, or MI)
- *deCODE ProstateCancer™*—which detects SNPs we have linked to increased risk of prostate cancer
- *deCODE Glaucoma™*—which detects SNPs we have linked to increased risk of exfoliation glaucoma
- *deCODE BreastCancer™*—which detects SNPs we and others have linked to risk of the most common forms of breast cancer

Beginning in 2008, deCODE initiated billing to insurance companies on behalf of physicians ordering these tests and has received reimbursement from several health insurance companies. All of our diagnostic tests are offered by deCODE via direct sales efforts to physicians in the United States; through marketing collaborations with other organizations in the U.S. and other countries; as well as through our dedicated diagnostics website, www.decodediagnostics.com. deCODE also has an alliance with Illumina, Inc. to develop DNA-based diagnostic kits utilizing deCODE's gene discoveries in certain diseases and Illumina's platform for SNP genotyping.

*deCODEme™.* In November 2007, we launched the first consumer genetic analysis service: deCODEme™. This service takes advantage of deCODE's leadership in human genetics and the capabilities of its high-throughput genotyping laboratory, which is CLIA registered for analytical and clinical validation. Through deCODEme™, subscribers can put themselves in the context of the latest discoveries in genetics, learning what their own DNA says about their ancestry, certain physical traits, as well as whether they have genetic variants that have been associated with higher or lower than average risk of a range of common diseases. This information is continually updated as new discoveries are made, and is presented in subscribers' secure individual web pages. Recently, we launched two focused disease scans, deCODEme Cardio™ for cardiovascular-related diseases and deCODEme Cancer™ for several common types of cancer. These scans offer subscribers an opportunity to understand their risk of groups of diseases that may be of particular interest without ordering the full genome scan. deCODEme™ products are offered through a dedicated website, www.decodeme.com.

*Drug Discovery and Development.* The expertise of our chemistry and structural biology units enable us to discover novel small-molecule therapeutic compounds that address both known and novel drug targets identified by us, take candidate compounds through pre-clinical testing, and manufacture sufficient quantities for early-stage clinical trials. Our integrated approach to medicinal chemistry and protein crystallography have helped us to discover compounds that bind selectively to our targets and at

sites that may offer better safety and tolerability profiles than existing compounds for certain indications. deCODE is actively exploring drug development partnerships and out-licensing opportunities in order to advance the development of its therapeutics programs.

Our lead drug development programs include:

- *DG041 for the prevention of arterial thrombosis.* DG041 is our novel, first-in-class antagonist of the EP3 receptor for prostaglandins E2, which we are developing as a next-generation oral anti-platelet therapy aimed at preventing arterial thrombosis without increasing bleeding time.
- *DG051 and DG031 for the prevention of heart attack.* We have completed Phase I and Phase IIa clinical studies for DG051, our leukotriene A4 hydrolase (LTA4H) inhibitor being developed for the prevention of heart attack. We successfully completed our reformulation of DG031, our Phase III 5-lipoxygenase activating protein (FLAP) inhibitor, in-licensed from a third party and which is also being developed for the prevention of heart attack.
- *DG071 for Alzheimer's and other cognitive disorders.* In October 2008 we filed an investigational new drug (IND) application for DG071, a novel small-molecule modulator of phosphodiesterase 4 (PDE4), being developed for Alzheimer's and other cognitive disorders.

The goal of our business strategy is to maximize the creation of value from our drug discovery and development programs, our human genetics and diagnostics capabilities and test portfolio, and to capture that value for deCODE and its stockholders. Executing on our strategy—advancing and capturing the value of our products while continuing our discovery and product development work in a broad range of common diseases—requires us prioritize investment, seek partnerships in those programs which we cannot advance ourselves, and manage cost.

In order to seek the best return from our limited resources for investment in product development, over the past year and into 2009, we are focused on generating near-term revenue through our DNA-based diagnostics tests and personal genome scans, as well as through our contract service businesses, at the same time as we are actively pursuing partnership opportunities for our therapeutics programs. Our chemistry subsidiary provides drug discovery and contract manufacturing services to fee-for-service customers, and our other service offerings include protein crystallography products and instruments through our bioSystems subsidiary, as well as protein structure analysis contract services through our structural biology subsidiary; and DNA analysis services through our genotyping laboratory in Reykjavik.

One of the main issues confronting big pharmaceutical companies is their lack of promising new drugs to treat major indications. As many leading brand-name drugs come off patent and face generic competition, developing successful new medicines will become critical for filling the gap. We believe that companies such as ours may be well positioned to play an important role in filling the gap in the pipeline of new drugs, either alone or as partners of pharmaceutical companies.

We have derived revenues primarily from genomic services, research funding and other fees from our service customers, as well as from research grants. Milestone payments and upfront, exclusivity, technology-access and technology-development fees under our collaboration agreements constitute another source of our revenues. Our expenses consist primarily of research and development expenses such as salaries and related employee costs, materials and supplies, and contractor services.

For our most significant research and development programs we have cumulatively invested $47.3 million, $24.5 million and $15.9 million in our heart attack (myocardial infarction, or MI), arterial thrombosis and stroke programs, respectively, from the beginning of 2003 to date (December 31, 2008). Inception to-date costs are not available as these costs were not historically tracked by program.

We have not applied for or received marketing approval from the applicable regulatory authorities in any country for any of our drug candidates. In order for us to achieve marketing approval in the

United States, the FDA must conclude that our clinical data establish the safety and efficacy of our drug candidate. Other countries have similar requirements. Historically, the results from pre-clinical testing and early clinical trials (through Phase II) have often not been predictive of success in later clinical trials. Many new compounds have shown promising results in early clinical trials, but subsequently failed to establish sufficient safety and efficacy data to obtain necessary marketing approvals. Additional risks and uncertainties involved in the development and commercialization of any products are described under Item 1A. We expect that it will be several years, if ever, before we receive revenues from the commercial sale of our therapeutic products.

Furthermore, our strategy includes the option of entering into collaborative arrangements with third parties to participate in the development and commercialization of our products. Entering into collaboration with a partner at any point in the development or commercialization of a product is a business decision. When making this decision we do and will consider, among other matters, the complexity of the indication, the size, complexity and expense of necessary development and/or commercialization efforts, competition in the market and size of the applicable market, an assessment of our own resources—financial and operational, and an assessment of the resources of a potential partner. In the event that we do collaborate on any of the above programs in the future, a partner will have a level of control, which may be significant, over the pre-clinical development or clinical trial process for a product. As a result the completion date of such a partnered program could largely be under control of that third party rather than under our control. We cannot forecast with any degree of certainty which proprietary drug candidate will be subject to future collaborative arrangements or how such arrangements would affect our development plan or capital requirements.

Due to the uncertainties discussed above, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will receive cash inflows from the commercialization and sale of a product.

**Acquisitions, Joint Development Programs and In-licensing**

As part of our business strategy, we continue to consider joint development programs and merger and acquisition opportunities that may provide us with products in late-stage development and intellectual property.

*Illumina.* In May 2006, we entered into a strategic alliance with Illumina, Inc. ("Illumina") to develop and commercialize molecular diagnostic products. Under the terms of the agreement, deCODE and Illumina will share development costs and split operating profits from the sales of diagnostic products. Our initial focus will be developing diagnostics for heart attack, breast cancer and type 2 diabetes. Also as part of the agreement, we have installed Illumina's SNP genotyping platform to carry-out high-density, whole-genome studies utilizing our comprehensive population genetics resources in Iceland, thereby, enabling us to expand our contract genotyping business to offer Illumina's platform and assay technologies together with our proprietary analytical services for customers.

**Results of Operations from the Years Ended December 31, 2008, 2007 and 2006**

Our results of operations have fluctuated from period to period and may continue to fluctuate in the future based upon, among other things, the pace and progress of our proprietary research and clinical development efforts, the timing and composition of funding under our various collaborative agreements, and the progress of our own research and development efforts. Results of operations for any period may be unrelated to results of operations for any other period. In addition, historical results should not be viewed as indicative of future operating results. We are subject to risks common to companies in our industry and at our stage of development, including risks inherent in our research and development efforts, reliance upon collaborative partners, development by us or our competitors of new technological innovations, ability to market products or services, dependence on key personnel,

dependence on key suppliers, protection of proprietary technology, ability to obtain additional financing, ability to negotiate collaborative arrangements, and compliance with governmental and other regulations. In order for a drug to be commercialized based on our research, we and our collaborators must conduct pre-clinical tests and clinical trials, demonstrate the efficacy and safety of our product candidates, obtain regulatory approvals or clearances and enter into manufacturing, distribution and marketing arrangements, as well as obtain market acceptance. We do not expect to receive significant revenues or royalties based on therapeutic or diagnostic products for a period of years, if at all.

Financial highlights as of and for the year ended December 31, 2008 include:

- Our planned operations require immediate additional liquidity which may not be available, raising substantial doubt about our ability to continue as a going concern. We incurred a loss of $80.9 million and used cash of $54.8 million from operating activities in the year ended December 31, 2008. At December 31, 2008, we had liquid funds available for operating activities (cash and cash equivalents together with current investments) of $3.7 million as compared to $64.2 million at December 31, 2007. The net utilization of liquid funds in the year ended December 31, 2008 was $60.5 million. In January 2009 we entered into an agreement with an Icelandic financial institution (NBI hf) pursuant to which NBI has purchased all auction rate securities ("ARS") owned by deCODE for an aggregate price of approximately $11.0 million, with which we believe we have sufficient funds to sustain our operations only into the second quarter of 2009. The agreement includes both call and put rights under certain instances and which expire at the end of 2009.

- Our revenue reached a historical high of $58.1 million in 2008 as compared to $40.4 million in 2007 and $40.5 million in 2006. As of December 31, 2008, we had $12.0 million in deferred revenue that will be recognized over future reporting periods. The increase in revenue for 2008 versus 2007 and 2006 was driven principally by growth in our genomic services business, which includes our diagnostics, deCODEme™ personal genome analysis, and contract genotyping business. Importantly, our genomic services revenues were $23.6 million during the 2008 as compared to $5.8 million in 2007 and $2.5 million in 2006.

- Research and development expense was $30.7 million in 2008 as compared to $53.8 million in 2007 and $57.1 million in 2006, reflecting the advancement of our diagnostic programs, the launch of DNA-based tests for gauging individual risk of common diseases and our deCODEme™ service offerings, advancement of our drug programs, and continued gene and target discovery work. We also continue to pursue our PDE4 modulator program across several indications and filed an IND application for DG071 for Alzheimer's and other cognitive disorders.

- Our selling, general and administrative expense in 2008 was $28.3 million as compared to $27.1 million in 2007 and $25.2 million in 2006. The changes in selling, general and administrative expense period-on-period reflect principally the build-up of our sales efforts for our diagnostics and deCODEme™ businesses offset chiefly by lower salary and stock-based compensation expense.

- With continuing developments in the global credit and capital markets into 2008, we recognized an other-than-temporary loss on investments in auction rate securities ("ARS"), classified as non-current investments on our balance sheet. The estimated market value of our ARS holdings at December 31, 2008 was $12.7 million. Although the ARS continue to pay interest according to their stated terms, based on the valuation models and an analysis of other-than-temporary impairment factors, we have recorded an impairment charge of $12.1 million during the year ended December 31, 2008. In January 2009 we entered into an agreement with an Icelandic financial institution (NBI hf) pursuant to which NBI has purchased all auction rate securities ("ARS") owned by deCODE for an aggregate price of ISK 1,375,000,000, which represents

approximately $11.0 million at current exchange rates. The agreement includes both call and put rights under certain instances and which expire at the end of 2009.

***Revenue***

| | Year ended December 31, | | | 2008 as Compared to 2007 | | 2007 as Compared to 2006 | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | $ Change | % Change | $ Change | % Change |
| | | | | (In thousands, except %) | | | |
| Revenue | $58,095 | $40,403 | $40,510 | $17,692 | 44% | $(107) | 0% |

In 2008, our business strategy focused on emphasizing our core capabilities in human genetics and leveraging those strengths to build on opportunities to generate near-term revenue from products that we already have available; namely our genomic services comprising diagnostics, our consumer genetics service deCODEme and genotyping and other scientific services. At the same time, we seek to advance our early and late stage drug programs through corporate partnerships, and will generate revenue from contract and other service fees. Further, we will continue to leverage our capabilities to continue with and pursue funding in the form of research grants. In the majority of our programs we are pursuing diagnostic and early-stage drug development on our own. Depending on the nature of each prospective business opportunity, the key components of the commercial terms of the types of collaborations we seek typically include one or more of the following: research funding; up-front, exclusivity, technology access, and technology development fees; fees for particular services; milestone payments; license or commercialization fees; and royalties or profit sharing from the commercialization of products.

Significant elements of our revenue are summarized as follows:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | (In thousands) | | |
| Genomic services | $23,613 | $ 5,753 | $ 2,471 |
| Research funding and other service fees | 15,390 | 16,930 | 16,248 |
| Government research contracts and grant funding | 16,880 | 14,538 | 16,922 |
| Milestone payments and other | 2,212 | 3,182 | 4,869 |
| Total revenue | $58,095 | $40,403 | $40,510 |

Increases in our revenue for the year ended December 31, 2008 as compared to 2007 and 2006 are largely on account of the growth of our genomic services business, principally our genotyping and other scientific services and, also, compared to 2007, an increase in the amount of discovery and development work performed under ongoing contracts and grants with the NIH and EC including new grants. Our revenue, in aggregate, was substantially unchanged in 2007 as compared to 2006 but then did reflect growth in our genetic and U.S. service lines offset by decreased grant revenue and the conclusion of our diagnostics alliance with Roche.

At December 31, 2008 we had $12.0 million in deferred revenue, compared to $15.4 million at December 31, 2007. Of this deferred revenue, $6.2 million relates to our agreement with Merck to conduct information-rich clinical trials in Iceland and, to date, Merck has not selected any compounds for development under the agreement. We expect that our revenues will fluctuate from period to period and that such fluctuations may be substantial especially because progress in our scientific work, including milestone payments that are related to progress, can fluctuate between periods.

Collaborations with our most significant partners include:

*F. Hoffmann-La Roche (Roche)*

*Therapeutics* In November 2004, we signed a three-year agreement with Roche to co-develop inhibitors of PDE4 for the prevention and treatment of vascular disease, including stroke. This agreement, which has now expired, continued work advanced under the 2002 agreement, and focused on optimizing lead compounds identified under the previous agreement and beginning clinical development. Under this agreement we received $6.0 million of research funding. We may receive milestone payments and royalties if Roche advances any compounds found under this agreement.

*Diagnostics.* In June 2001, we signed a five-year alliance with Roche's diagnostics division and through June 2006 we collaborated to develop and market DNA-based diagnostics for major diseases. During the term of the alliance, which has now expired, we received $44.3 million in research funding, up-front fees and milestone payments under the agreement and we may receive additional milestone payments upon the achievement of research and development milestones by Roche and royalties on the sales of diagnostic products developed by Roche.

Revenues from these alliances with Roche amounted to $0, $2.0 million and $6.7 million for the years ended December 31, 2008, 2007 and 2006, respectively. Costs incurred with these collaborative programs with Roche amounted to $0, $0 and $6.4 million for the years ended December 31, 2008, 2007 and 2006, respectively.

*Merck & Co, Inc. (Merck)*

*Obesity.* In September 2002, we entered into a three year alliance with Merck aimed at developing new treatments for obesity. Under the alliance, we combined research efforts with Merck in the genetics of obesity to identify, validate and prioritize a series of drug targets to take into development. During the three-year research program, which has now expired, we have received research funding, technology access fees and milestone payments in the aggregate amount of $27.3 million. Subject to Merck's developing products based on collaboration discoveries, we may also receive development milestones and royalties. We discovered three genes linked to obesity under this alliance, and Merck has generated a lead series of compounds against one of the targets we validated through our genetics research.

Revenues from this alliance with Merck amounted $0, $1.0 million and $1.0 million for the years ended December 31, 2008, 2007 and 2006, respectively. There were no costs incurred in connection with this alliance during the years ended December 31, 2007 and 2006 as these payments were technology access fees.

*Government Research Contracts and Grant Funding*

We have received various research grants from divisions of the United States National Institutes of Health (NIH), the Commission of the European Communities (EC) and other government agencies and private foundations. Research grants for multiple years are based on approved budgets with budgeted amounts subject to approval on an annual basis. NIH grants generally provide for 100% reimbursement of allowable expenditures while grants under the EC generally provides for fifty percent reimbursement of allowable research and development related expenditures. Our significant research contracts include:

*National Institutes of Allergy and Infectious Diseases (NIAID).* In September 2004, we were awarded a five-year $23.9 million contract by the NIAID, a division of NIH. Under the contract, deCODE will apply its population approach and resources to discover genetic factors associated with susceptibility to certain infectious diseases and with responsiveness to vaccines targeting such diseases. deCODE may receive $4.7 million in additional research funding over the remaining term of the agreement.

*Cost of Revenue*

| | Year Ended December 31, | | | 2008 as Compared to 2007 | | 2007 as Compared to 2006 | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | $ Change | % Change | $ Change | % Change |
| | | | | (In thousands, except %) | | | |
| Cost of Revenue | $52,517 | $47,018 | $42,660 | $5,499 | 12% | $4,358 | 10% |

Our cost of revenue consists of the costs of services provided to customers and collaborators and the costs of programs under research contracts and grants, including: (i) the entirety of the costs incurred in connection with programs that have been partnered and on which we receive research funding; (ii) costs associated with other service fee revenues; and (iii) the total amount of those costs incurred in connection with discovery and development work performed under research contracts and grants. At times, we invest in addition to costs covered by research funding received in such collaborative programs and in addition to monies received under research contracts and grants

Significant elements of our revenue and cost of revenue are summarized as follows:

| | Year Ended December 31, 2008 | | |
|---|---|---|---|
| | Revenue | Cost of Revenue | Net |
| | | (In thousands) | |
| Genomic services, research funding and other service | $41,215 | $31,121 | $10,094 |
| Government research contracts and grant funding | 16,880 | 21,396 | (4,516) |
| Total | $58,095 | $52,517 | $ 5,578 |

| | Year Ended December 31, 2007 | | |
|---|---|---|---|
| | Revenue | Cost of Revenue | Net |
| | | (In thousands) | |
| Genomic services, research funding and other service | $25,865 | $27,582 | $(1,717) |
| Government research contracts and grant funding | 14,538 | 19,436 | (4,898) |
| Total | $40,403 | $47,018 | $(6,615) |

| | Year Ended December 31, 2006 | | |
|---|---|---|---|
| | Revenue | Cost of Revenue | Net |
| | | (In thousands) | |
| Genomic services, research funding and other service | $23,588 | $21,766 | $ 1,822 |
| Government research contracts and grant funding | 16,922 | 20,894 | (3,972) |
| Total | $40,510 | $42,660 | $(2,150) |

Generally our costs of revenue have been increasing due to (i) the growth of our genomics business, principally the growth of scientific services, (ii) services provided by our chemistry and structural biology units, and also (iii) an increased amount of discovery and development work performed under ongoing contracts and grants with the NIH and EC including new grants.

More specifically, our cost of revenue for 2008 as compared to 2007 increased primarily due to the changing sources of revenue as described above. The overall increase in 2008 compared to 2007 is attributable to greater expense for chemicals and consumables ($10.8 million), offset by decreased employee compensation ($4.6 million salary and $0.2 million stock-based compensation) primarily due to decreased headcount and the exchange rate decrease of the Icelandic krona versus the U.S. dollar and contractor services ($1.1 million).

The increased costs of revenue for 2007 as compared to 2006 reflect the conclusion of our diagnostics alliance with Roche and the completion of the Merck obesity research program, offset by growth in our genetic and U.S. service lines but the particularly the growing amount of discovery and development work performed under ongoing contracts and grants with the NIH and EC, including those obtained in connection with the acquisition of UVS in January 2006. Growth in the cost of discovery and development work performed under contracts and grants with the NIH and EC in 2006 and again in 2007 is largely due to our high-density, whole-genome studies utilizing the Illumina SNP genotyping platform and our comprehensive population genetics resources in Iceland. Further, in 2006 we conducted a Phase II trial in asthma for a compound developed by Cephalon and through 2007 continued our efforts in the PDE4 inhibitor program for vascular disease/stroke pursuant to our 2004 agreement with Roche.

Our cost of revenue for 2007 compared to 2006 increased primarily due to the changing sources of revenue as described above. The overall increase in 2007 compared to 2006 is attributable to greater expense for chemicals and consumables ($2.2 million), employee compensation ($1.9 million, salary and stock-based compensation) and contractor services ($0.8 million), offset by a decrease of depreciation and amortization ($1.0 million).

***Research and Development***

| | Year Ended December 31, | | | 2008 as Compared to 2007 | | 2007 as Compared to 2006 | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | $ Change | % Change | $ Change | % Change |
| | | | | (In thousands, except %) | | | |
| Research and Development .... | $30,726 | $53,825 | $57,108 | $(23,099) | (43)% | $(3,283) | (6)% |

Our research and development expenses consist of the following:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| Salaries and other personnel costs | $12,859 | $18,889 | $20,440 |
| Materials and supplies | 5,583 | 12,371 | 7,495 |
| Contractor services and other third party costs | 5,038 | 12,961 | 19,109 |
| Overhead expenses | 3,630 | 5,510 | 5,107 |
| Depreciation and amortization | 2,482 | 2,264 | 3,287 |
| Stock-based compensation | 1,134 | 1,830 | 1,670 |
| | $30,726 | $53,825 | $57,108 |

Our research and development expense for 2008 and 2007 reflects the advancement of our drug and diagnostic programs, including costs related to the development and launch of our latest DNA-based diagnostic tests for gauging individual risk of a growing number of common disease and ongoing gene discovery work that is feeding our diagnostic pipeline and our deCODEme service offerings. We also continued to pursue our PDE4 modulator program across several indications and filed an IND for DG071 in October 2008. With near-term value creation in mind, our core focus in 2008 was towards building our diagnostics and deCODEme businesses and our genomic services broadly. With that focus in mind and decreased clinical trial work in 2008 we experienced decreased overall expense in 2008. Also contributing to lower 2008 expense was decreased headcount and the decreased exchange rate of the Iceland krona versus the U.S. dollar. At the same time, we have aimed to advance our therapeutics programs through partnerships. As we continued our high-density, whole genome studies in 2006 and 2007 utilizing the Illumina SNP genotyping platform we have seen increases in related materials and supplies as well as the attendant salary and related costs. The relatively higher amount of contractor services and other third party costs in 2006 as compared to 2007

is largely on account of the clinical development of DG031 in which we initiated a Phase III trial in early 2006 and then voluntarily suspended in late 2006.

***Selling, General and Administrative Expense***

| | Year Ended December 31, | | | 2008 as Compared to 2007 | | 2007 as Compared to 2006 | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | $ Change | % Change | $ Change | % Change |
| | | | | (In thousands, except %) | | | |
| Selling, General and Administrative | $28,318 | $27,139 | $25,206 | $1,179 | 4% | $1,933 | 8% |

The increase in our selling, general and administrative expenses for 2008 compared to 2007 is primarily attributable to increased selling expenses and other contractor services related to our diagnostic and deCODEme offerings ($4.9 million) offset chiefly by lower compensation ($4.1 million in salary and stock-based compensation) due primarily to decreased headcount and the exchange rate decrease of the Icelandic krona versus the U.S. dollar.

The increase in our selling, general and administrative expenses for 2007 compared to 2006 was primarily attributable to increased compensation ($3.3 million, salary and stock-based compensation) and increased contractor services related to the selling and marketing of our genetic service offerings ($2.5 million). Increases in our selling, general and administrative expenses for 2007 as compared to 2006 were offset by decreased legal expenses ($3.5 million) on account of litigation regarding certain proprietary and confidential information in 2006 that was concluded in 2007. In addition, our selling, general and administrative expenses in 2006 include a $0.8 million gain on the sale of property.

***Interest Income***

| | Year Ended December 31, | | | 2008 as Compared to 2007 | | 2007 as Compared to 2006 | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | $ Change | % Change | $ Change | % Change |
| | | | | (In thousands, except %) | | | |
| Interest Income | $2,489 | $6,541 | $6,685 | $(4,052) | (62)% | $(144) | (2)% |

Our interest income is a function of both the balance of our cash and investments (which generally have been declining as resources are deployed in operations) and the rate of return we are able to garner under our investment policy. We have utilized our cash and investments principally in advancing our discovery and development programs. In the meantime, we invest our resources with the objective of preserving principal and maintaining a high degree of liquidity to meet operating needs, while obtaining competitive returns subject to prevailing market conditions.

***Interest Expense***

| | Year Ended December 31, | | | 2008 as Compared to 2007 | | 2007 as Compared to 2006 | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | $ Change | % Change | $ Change | % Change |
| | | | | (In thousands, except %) | | | |
| Interest Expense | $16,467 | $15,641 | $7,808 | $826 | 5% | $7,833 | 100% |

Our interest expense has increased in 2008 as compared to 2007 and 2006. Our interest expense is primarily attributable to interest on our 3.5% Senior Convertible Notes due in 2011 that we issued in April 2004 ($150 million of principal at a full par price) and then again in November 2006 (a further $80 million of principal at a price of 70% of par). With the additional $80 million of notes added in 2006, our cash interest payments are approximately $8.1 million on an annual basis for the Senior Convertible Notes. Taking into account also the accretion of the discount of the notes and the

amortization of offering costs, our total interest expense related to the Senior Convertible Notes is expected to be approximately $14.6 million for the year ending December 31, 2009.

In June 2007, as a result of our sale and leaseback of Woodridge being treated as a financing, a portion of our rent payments are charged to interest expense ($1.4 million in 2008 and $0.8 million in 2007), and which increased our annual interest expense by approximately $1.4 million per annum.

***Other non-operating income, net***

| | Year Ended December 31, | | | 2008 as Compared to 2007 | | 2007 as Compared to 2006 | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2007 | 2006 | $ Change | % Change | $ Change | % Change |
| | | | | (In thousands, except %) | | | |
| Other Non-Operating Income and Expense, Net | $(13,503) | $1,153 | $114 | $(14,656) | 1,271% | $1,039 | 910% |

Our other non-operating income and expense, net, in 2008 is principally comprised of other-than-temporary losses on investments in auction rate securities. With continuing developments in the global credit and capital markets into 2008, we recognized an other-than-temporary loss on investments in ARS, classified as non-current investments on our balance sheet at December 31, 2008. The estimated market value of our ARS at December 31, 2008 was $12.7 million. Although the ARS continue to pay interest according to their stated terms, based on the valuation models and an analysis of other-than-temporary impairment factors, we have recorded an impairment charge of $12.1 million and $7.8 million during 2008 and 2007, respectively. The credit and capital markets have continued to deteriorate in 2008. If uncertainties in these credit and capital markets continue, these markets deteriorate further or we experience additional downgrades on our investments, we may incur additional impairments to our investment portfolio, which could negatively affect our financial condition, cash flows and reported earnings.

Our other non-operating income and expense, net, in 2007 is principally due to a gain from a legal settlement (net amount of $8.2 million) offset by an other-than-temporary impairment on our investments of $7.8 million.

As a consequence of the nature of our business and operations, our reported financial results and cash flows are exposed to the risks associated with fluctuations in the exchange rates of the U.S. dollar, the Icelandic krona and other world currencies. The net impact of foreign exchange on the translated amount of our non-US dollar denominated liabilities, net together with transaction gains and losses, amounted to a gain (loss) of $(0.3) million, $0.7 million and 0.1 million in 2008, 2007 and 2006, respectively.

**Liquidity and Capital Resources**

*Financial Condition.* Our planned operations require immediate additional liquidity which may not be available, raising substantial doubt about our ability to continue as a going concern. deCODE has recorded substantial operating and net losses over the past three years. Its cash flows used in operations have been $54,779,000, $63,889,000 and $85,169,000 in 2008, 2007 and 2006, respectively. In addition, the Company has significant amounts of long-term debt which requires interest payments of approximately $8,050,000 per annum. At December 31, 2008, deCODE had liquid funds available for operating activities (cash and cash equivalents) of $3,701,000 as compared to $64,175,000 (cash and cash equivalents together with current investments) at December 31, 2007. In January 2009 we sold our ARS to an Icelandic financial institution for an aggregate price of approximately $11.0 million. We believe we have sufficient funds to sustain our operations only into the second quarter of 2009. To address deCODE's immediate need for funds, management and the Board of Directors are exploring the possibilities of (i) selling some or all of deCODE's U.S. subsidiaries and/or its diagnostics and

deCODEme businesses based in Iceland, (ii) granting licenses to specific diagnostic products, (iii) entering into a collaboration for gene sequencing, (iv) selling some or all of deCODE's clinical and pre-clinical drug discovery programs, (v) restructuring deCODE's outstanding convertible notes and (vi) obtaining new equity financing. Closing on opportunities in (ii) and (vi) could provide cash flow to meet immediate needs. Achieving (v) could result in a settlement of deCODE's convertible note obligation for substantially less than the carrying amount or in either a cash conversion of the convertible notes into equity of deCODE. Receipt of additional equity financing to support operations in the longer term depends in large part on the outcomes of actions in (ii), (iii) and (v). Management and the board are having ongoing dialogues and negotiations with third parties in each of these areas. If deCODE's Board of Directors concludes that any of these options can be better implemented in a bankruptcy proceeding, deCODE will commence a proceeding under Chapter 11 of the U.S. Bankruptcy Code. Whether in a bankruptcy proceeding or otherwise, the consummation of any of these approaches are dependent on successful negotiations with third parties and in many cases the availability of financing to such third parties. There can be no asssurance that any potential transactions will be consummated or will result in sufficient funding to sustain operations. If deCODE is unable to raise additional capital through one or more of these options, it will be able to continue operations only into the second quarter of 2009 and thereafter may be forced to discontinue its operations and liquidate its remaining assets.

We have financed our operations primarily through funding from research and development collaborative agreements, and the issuance of equity securities and long-term financing instruments ($1,074 million from the beginning of 1999 to December 31, 2008). At December 31, 2008, future funding under terms of our existing agreements is approximately $31.2 million (excluding milestone payments, royalties and other payments that we may earn under such collaborations), for which significant expense will need to be incurred in order to earn this revenue. Of the $31.2 million, approximately $22.1 million is expected to be received during the year ending December 31, 2009, with the remaining amount due through 2012.

*Icelandic Economic Situation.* deCODE has significant operations in Iceland and pays a large proportion of its fixed costs in Icelandic Krona (ISK), while its sales are generally denominated in U.S. dollars and its reporting currency is the U.S. dollar. Beginning in the third quarter of 2008 and particularly in the first weeks of the fourth quarter, the effects of the global credit and financial crisis hit the Icelandic economy particularly hard. In mid-October 2008, the Icelandic parliament passed emergency legislation to minimize the impact of the financial crisis, resulting in the government takeover of the three largest Icelandic banks. By the end of October, with significant foreign exchange controls in place, the official exchange rate was 120.6 ISK to the U.S. dollar. The ISK fell from 62.0 ISK to the U.S. dollar on January 1, 2008 to 123.1 ISK to the U.S. dollar on December 31, 2008. The turmoil in the Icelandic financial sector and economy as a whole has not had a significant impact on deCODE and has had no material adverse impact on our day to day operations, except to decrease the dollar value of our ISK-denominated costs. At December 31, 2008, deCODE has ISK denominated operating lease obligations of $39.7 million and cash and cash equivalents denominated in ISK of $0.7 million. Our most significant operating expenses denominated in ISK include salaries and rental payments on our leased facilities and capital equipment leases and we expect that in as far as the ISK decreases in value versus the U.S. dollar our ISK-denominated operating expenses will generally decrease.

*Fair Value.* As of December 31, 2008, we have certain assets recorded at fair value. In accordance with Statement of Financial Accounting Standards No. 157, *Fair Value Measurement*, or SFAS No. 157, we have classified our financial assets as Level 1, 2 or 3 within the fair value hierarchy. Fair values determined by Level 1 inputs utilize quoted prices (unadjusted) in active markets for identical assets or liabilities. Fair values determined by Level 2 inputs utilize quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly

through market corroboration, for substantially the full term of the financial instrument. Fair values determined by Level 3 inputs utilize unobservable inputs based on assumptions used to measure assets and liabilities at fair value. A financial asset or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

As noted in Note 13 to our consolidated financial statements, Fair Value Measurement, a majority of our financial assets consist of auction rate securities (ARS) and have been classified as Level 3 in the fair value hierarchy. The non-current investments in ARS held by us were private placement securities with long-term nominal maturities for which the interest rates are reset through a Dutch auction process at pre-determined calendar intervals, generally each month. This mechanism generally allowed existing investors to rollover their holdings and continue to own their respective securities or liquidate their holdings by selling their securities at par value. We generally invested in these securities for short periods of time as part of our cash management program. However, the ongoing uncertainties in the credit markets prevented us and other investors from liquidating holdings of our remaining ARS in recent auctions for these securities because the amount of securities submitted for sale has exceeded the amount of purchase orders and this has resulted in multiple failed auctions. Our non current investments in ARS at December 31, 2008, represent interests in debt obligations, namely life insurance wrapped issues, of companies offering credit derivatives, and of entities on which monoline insurers retain capital put rights. The remaining ARS investments were generally collateralized by pools of commercial paper, investment-grade corporate debt, asset and mortgage-backed securities, government and money-market issues and other ARS. Consistent with our investment policy guidelines, all of the ARS investments were rated as investment grade (at least A or better) at the time of purchase and subsequent to year end remain rated as investment grade.

Our Level 3 investments in ARS have a present lack of observable market quotes. The valuation models used to value the securities include those that are based on expected cash flow streams and collateral values, including assessments of counterparty credit quality, default risk underlying the security, discount rates and overall capital market liquidity. The valuation of our investments in ARS is subject to uncertainties that are difficult to predict. Factors that may impact the valuation include changes in credit ratings of the securities or their guarantors, underlying collateral value, discounts rates, counterparty risk and ongoing strength and quality of market credit and liquidity. We validate the prices provided by our third party pricing service by understanding the models used and challenging pricing data in certain instances.

The estimated market value of our non current investments in ARS at December 31, 2008 was $12.7 million. Although the ARS continue to pay interest according to their stated terms, based on the valuation models and an analysis of other-than-temporary impairment factors, we have recorded an impairment charge of $12.1 million and $7.8 million during 2008 and 2007, respectively, reflecting the portion of ARS holdings that we have concluded have an other-than-temporary decline in value and this charge is included in Other non-operating income and (expense), net in our Statements of Operations. This $12.1 million impairment charged includes $0.9 million related to ARS for which we had previously determined to be temporary and accounted for as an unrealized loss at December 31, 2007. As previously noted, in January 2009 we entered into an agreement with an Icelandic financial institution (NBI hf) pursuant to which NBI has purchased all auction rate securities ("ARS") owned by deCODE for an aggregate price of approximately $11.0 million, with which we believe we have sufficient funds to sustain our operations only into the second quarter of 2009. The agreement includes both call and put rights under certain instances and which expire at the end of 2009 (see Note 22 to our consolidated financial statements).

Our cash was provided by and used as follows:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | (In thousands) | | |
| **Cash provided by (used in):** | | | |
| Operating activities | $(54,779) | $(63,888) | $(85,179) |
| Investing activities | 8,010 | 78,532 | (44,424) |
| Financing activities | (3,702) | 17,646 | 85,542 |
| Cash and cash equivalents, at end of period | 3,701 | 54,172 | 21,882 |

*Cash and Cash Equivalents.* At December 31, 2008, we had $3.7 million in cash and cash equivalents. Together with our non-current investments in auction rate securities ($12.7 million) and restricted cash equivalents ($5.5 million), this balance ($21.9 million) is $72.2 million less than at December 31, 2007. The net utilization of our cash in 2008 is principally owing to cash used in product development, research and general operations as reflected in the $54.8 million cash we used in operations.

Available cash is invested in accordance with our investment policy having primary objectives of liquidity and safety of principal while generating income from our investments without significantly increasing risk. Our cash and cash equivalents are deposited with financial institutions having a high credit rating (A−/A3 or better in the United States and the United Kingdom and Baa1 in Iceland). In Iceland the financial institutions are owned by the Government of Iceland and the credit rating of the government applies to the financial institutions at the end of 2008 as they are not separately rated. At December 31, 2008, we had $1.1 million of cash and cash equivalents held in Icelandic financial institutions. We expect to maintain our portfolio of cash equivalents and investments in accordance with our policy, having the objective of preserving principal and maintaining a high degree of liquidity to meet operating needs and obtaining returns subject to prevailing market conditions. At December 31, 2008, our investments are in auction rate securities. At present, we expect to maintain our portfolio of cash equivalents and investments in money market funds and government debt securities. At December 31, 2008, our cash is largely invested in U.S. dollar denominated money market and checking accounts and also in Icelandic krona denominated accounts.

*Operating Activities.* Net cash used in operating activities decreased to $54.8 million in 2008 as compared to $63.9 million in 2007 and $85.2 million in 2006. Cash used in our operations is principally owing to cash used in diagnostic and therapeutic product development, research and general operations as reflected in the $54.8 million cash we used in operations, as more fully described above; most importantly attributable to the significant research and development investments being made in advancing our drug and diagnostic development programs.

*Investing Activities.* Our investing activities have consisted of short-term investments in marketable securities and capital expenditures. Capital expenditures have been principally replacement capital expenditures during 2008 and we anticipate making only necessary replacement capital expenditures in the near term.

During 2008 our restricted cash equivalents increased by $0.4 million, related to the security deposit for our Woodridge facility. During 2007 our restricted cash equivalents increased by $5.1 million in connection with the leaseback of our Woodridge property. In 2006, we acquired $1.3 million of cash in our purchase of UVS, money used to fund the acquired liabilities of UVS. In July 2006, we commenced installation of Illumina SNP genotyping platform and financed the equipment purchased ($4.1 million) with a three-year capital lease with an Icelandic financial institution. With the exception of the X-Ray equipment purchase in 2007 and the Illumina equipment purchase in 2006, we principally made replacement capital expenditures during 2008, 2007 and 2006

and invested in certain computer and laboratory equipment. We aim to make only necessary replacement capital expenditures in the near term. Net cash used in investing activities may in the future fluctuate significantly from period to period due to timing of our capital expenditures and other investments as well as changing business needs.

*Financing Activities.* Net cash of $3.7 million was used by financing activities in 2008 as compared to $17.6 million and $85.5 million provided by financing activities in 2007 and 2006, respectively.

Financing activities for 2008 consisted primarily of ongoing repayment of and installment payments on debt, capital lease and finance obligations ($3.9 million).

During 2007 our most significant financing activity was the sale and leaseback of our property in Woodridge, Illinois (netting us $18.4 million after the payment of transaction costs and the repayment of our existing property mortgage). Additionally, in September 2007, we entered into a sale-and-leaseback of certain laboratory equipment amounting to $2.1 million. Further, we had ongoing repayment of and installment payments on debt, capital lease and finance obligations amounting to $8.5 million in 2007. Our obligations under the lease are collateralized by a letter of credit in an initial amount of $5.0 million that may be reduced upon certain conditions. The letter of credit is collateralized by restricted cash equivalents ($5.1 million at December 31, 2007). Concurrent with the Woodridge sale-leaseback financing, we paid the existing mortgage loan ($5.4 million) which had been collateralized by the Woodridge property.

More significant financing activities for 2006, include our sale of $80,000,000 principal amount of 3.5% Senior Convertible Notes due 2011 at a price of 70% of par (netting $52.9 million), our sale of 6,000,000 shares of common stock (netting $27.7 million), the sale-and-leaseback of Illumina and other equipment and proceeds from other equipment financings ($5.9 million) and debt service ($2.8 million).

*Contractual Commitments and Off-Balance Sheet Arrangements.* The following summarizes our contractual obligations at December 31, 2008, and the effects such obligations are expected to have on our liquidity and cash flows in future periods:

| | Payments Due by Period | | | | | | |
|---|---|---|---|---|---|---|---|
| | Total | Less Than 1 Year | 1–2 Years | 2–3 Years | 3–4 Years | 4–5 Years | More Than 5 Years |
| | (In thousands) | | | | | | |
| 3.5% Senior convertible notes, including interest | $250,125 | $ 8,050 | $ 8,050 | $234,025 | $ — | $ — | $ — |
| Long-term debt, including interest | 349 | 272 | 77 | — | — | — | — |
| Capital lease obligations, including interest | 2,244 | 2,244 | — | — | — | — | — |
| Finance obligation, including interest | 37,738 | 2,034 | 2,085 | 2,137 | 2,191 | 2,246 | 27,045 |
| Operating leases (1) | 40,683 | 3,872 | 3,739 | 3,716 | 3,716 | 3,526 | 22,114 |
| Total | $331,139 | $16,472 | $13,951 | $239,878 | $5,907 | $5,772 | $49,159 |

(1) Balance includes $39.7 million of Icelandic krona (ISK) denominated lease obligations which are variable based on the exchange rate of the ISK versus the U.S. dollar and also this amount is subject to periodic adjustments based on the Icelandic Consumer Price Index (ICPI). A hypothetical 10% increase or decrease in the ISK and U.S. dollar exchange rate would result in an increase or decrease of our annual lease payments of $0.4 million. A hypothetical 100 basis point increase of the ICPI would result in an increase or decrease of our annual lease payments of $0.1 million.

Under the terms of certain technology licensing agreements, deCODE is obligated to make payments upon the achievement of established milestones leading to the discovery of defined products. These payments could total $5.0 million, with the timing of payments not determinable at the current time. These potential payments are not included in the above table.

In November 2007, deCODE adopted a Change In Control Benefits Plan that provides for, among other things, upon a change in control, all outstanding stock options, restricted stock and stock appreciation rights, and any similar awards under any equity compensation plan of deCODE, shall vest, become immediately exercisable or payable and have all restrictions lifted. In the event of a change in control, the Plan also requires deCODE to make a lump sum payment to the CEO and reporting officers based on their most recent salary and bonus history. Also, the Plan requires other benefits to be paid, to include life, disability, accident and health insurance for these employees for a period of 24 to 36 months depending on employment. deCODE believes that it is unlikely that these circumstances will transpire, as such no charge has been recognized in its Statements of Operations. Further, these potential payments are not included in the above table. As of December 31, 2008, the potential minimum lump sum payment (salary and bonus amounts only) under these change in control provisions would have totaled approximately $6.1 million.

All material intercompany balances and transactions have been eliminated. We do not have any other significant 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. As such, we are not exposed to any financing, liquidity, market or credit risk that could arise if we had engaged in such relationships. Additionally, holders of our 3.5% senior convertible notes may elect to convert their notes into shares of our common stock at any time at a price of $14.00 per share.

**Critical Accounting Policies**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires us to make certain estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reported period. On an ongoing basis we evaluate our estimates, which include, among others, those related to revenue recognition, property and equipment, goodwill and intangible assets, materials and supplies, derivative financial instruments, income taxes, litigation and other contingencies. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form our basis for making judgments about carrying values of assets and liabilities that are not readily apparent from other sources. The impact and any associated risks related to these and our other accounting policies on our business or operations is discussed throughout "Management's Discussion and Analysis of Financial Condition and Results of Operations" where such policies affect our reported and expected financial results. For a detailed discussion on the application of these and other accounting policies, please refer to our notes to the Consolidated Financial Statements. There can be no assurance that actual results will not differ from the estimates referred to above.

We believe the following policies to be the most critical to an understanding of our financial condition and results of operations because they require us to make estimates, assumptions and judgments about matters that are inherently uncertain.

***Revenue Recognition***

We recognize revenue provided that there is persuasive evidence that an arrangement exists, the price is fixed and determinable, services were rendered and collectibility is reasonably assured. We have

entered into research, development and commercialization alliances and collaborations with major pharmaceutical and biotechnology companies. The key components of the commercial terms of such alliance arrangements typically include one or more of the following: research funding; up-front, exclusivity, technology access, and technology development fees; milestone payments; license or commercialization fees; and royalties or profit sharing from the commercialization of products.

deCODE's revenues from research and development collaboration agreements are recorded and recognized in accordance with the applicable performance requirements and terms of the respective contracts, generally either (i) as contract research costs are incurred, usually ratably over the period of effort, (ii) according to the level of efforts expended based on the ratio of contract research costs incurred to expected total costs, or (iii) upon the achievement of substantive milestones. deCODE's accounting recognition policies with respect to each significant element of deCODE's revenue is summarized as follows:

*Genomic services, research funding and other service fees.* Genomic services revenue is generally recognized upon completion. Research funding is recognized as earned, typically ratably over the period of effort. Funding payments are not refundable in the event that the related efforts are not successful. Other service revenues from negotiated rate contracts are recognized based upon the terms of the underlying contract generally either (i) on a per diem basis as services are rendered; (ii) on the basis of efforts expended, generally upon the ratio of costs incurred to total expected costs of providing the service; or (iii) upon completion of the service rendered. Any losses on contracts are provided for when they are determinable. Included in revenue are billings to customers for the cost of materials purchased by deCODE.

*Milestone payments.* Under the substantive milestone method deCODE records revenue when the milestone has been achieved and payment is due and payable under the terms of the respective agreement and deCODE recognizes revenue when acknowledgement of achievement of applicable performance requirements is received from the collaborator. Milestone payments without the above characteristics are recognized on a retrospective basis over the contractual term of the underlying agreement.

In arrangements with multiple elements, if the milestone is substantive in nature and there is uncertainty in the achievement of the milestone and there is no further obligation on the part of deCODE, we record revenue when the milestone has been achieved and payment is due and payable under the terms of the respective agreement and we recognize revenue when acknowledgement of achievement of applicable performance requirements is received from the collaborator ("Milestone Payment Method"). If the milestone is earned and there is further obligation under the contract for performance by deCODE, then deCODE will record revenue when the milestone has been achieved and payment is due and payable under the terms of the respective agreement and deCODE retroactively recognizes revenue through the current period based on the total contractual term and amortizes the balance over the remaining contractual term.

*Up-front, exclusivity, technology access, and technology development fees.* We recognize revenue from non-refundable fees not specifically tied to a separate earnings process ratably over the expected customer relationship period or estimated period of performance. Changes in estimates could impact revenue in the period the estimate is changed. If our estimate of the period of performance shortens or lengthens, the amount of revenue we recognized from such non-refundable fees not specifically tied to a separate earnings process could increase or decrease in the period the change in estimate becomes known; future related revenues would be adjusted accordingly.

*Grant Revenue.* Research grants and contracts that provide for payments to us for work performed are recognized as revenue when the related expense is incurred and we have obtained necessary governmental approval to use the grant funds for these expenses. Revenues under these contracts will be recognized as deCODE incurs costs related to the contracts.

Revenue estimates are reviewed and revised throughout the lives of our contracts and are made based upon current facts and circumstances. If changes in these estimates or other material adjustments to revenue are identified, the adjustments to profits resulting from such revisions will be recorded on a cumulative basis in the period in which the revisions are made.

***Investments***

At December 31, 2008, we held investments in Auction Rate Securities (ARS) with original purchase principal values totaling $33.5 million which is classified as non-current investments on our balance sheet and valued at $12.7 million at December 31, 2008. The investments in ARS held by us are private placement securities with long-term nominal maturities for which the interest rates are reset through a Dutch auction process at pre-determined calendar intervals, generally each month. This mechanism generally allows existing investors to rollover their holdings and continue to own their respective securities or liquidate their holdings by selling their securities at par value. We generally invest in these securities for short periods of time as part of our cash management program. However, the recent uncertainties in the credit markets have prevented us and other investors from liquidating holdings of our remaining ARS in recent auctions for these securities because the amount of securities submitted for sale has exceeded the amount of purchase orders and this has resulted in multiple failed auctions.

Our non current investments in ARS represent interests in debt obligations, namely life insurance wrapped issues, of companies offering credit derivatives, and of entities on which monoline insurers retain capital put rights. The remaining ARS investments are generally collateralized by pools of commercial paper, investment-grade corporate debt, asset and mortgage-backed securities, government and money-market issues and other ARS. Consistent with our investment policy guidelines, all of the ARS investments were rated as investment grade (at least A or better) at the time of purchase and subsequent to year end remain rated as investment grade.

The estimated market value of our non current investments in ARS at December 31, 2008 and 2007 was $12.7 million and $24.8 million, respectively, which reflects a $20.8 million and an $8.7 million adjustment to the principal value of $33.5 million, respectively. Although the ARS continue to pay interest according to their stated terms, based on the valuation models and an analysis of other-than-temporary impairment factors, we have recorded an impairment charge of $12.1 million and $7.8 million for the years ended December 31, 2008 and 2007, respectively, reflecting the portion of ARS holdings that we have concluded have an other-than-temporary decline in value and this charge is included in Other non-operating income and (expense), net in our Statements of Operations. We recognized an unrealized loss of $0.9 million for those ARS for which we believed the loss was temporary in 2007, which due to continued volatility and other factors was determined to be other-than-temporary in 2008. The securities for which we believed the loss was temporary total $12.5 million of principal, are collateralized by pools of asset and mortgage-backed securities and investment-grade corporate debt, and are guaranteed by investment-grade, monoline insurers.

Due to the present lack of observable market quotes for the non-current investments in ARS, deCODE engaged a third-party to assist with valuing these securities at December 31, 2008 and 2007. The valuation models we use to value the ARS include those that are based on expected cash flow streams and collateral values, including assessments of counterparty credit quality, default risk underlying the security, discount rates and overall capital market liquidity. The valuation of our investments in ARS is subject to uncertainties that are difficult to predict. Factors that may impact the valuation include changes in credit ratings of the securities or their guarantors, underlying collateral value, discounts rates, counterparty risk and ongoing strength and quality of market credit and liquidity.

In January 2009, we entered into an agreement with NBI hf., an Icelandic financial institution, pursuant to which NBI has purchased all auction rate securities ("ARS") owned by deCODE for an

aggregate price of ISK 1,375,000,000, which represents approximately $11,000,000 at current exchange rates. Pursuant to the agreement, NBI has the put option to require deCODE to repurchase the ARS upon the earlier of (a) the sale of all or a majority of the stock of deCODE genetics ehf, deCODE's Icelandic subsidiary, ("IE") or a specified part of the operations of IE or (b) December 31, 2009, and deCODE has the call option to require NBI to sell the ARS to it at any time prior to December 31, 2009. The repurchase price on exercise of the put or call option (the "Repurchase Price") will be equal to the purchase price plus interest from January 16, 2009 at a rate of five percent (5%) above the Reykjavik Interbank Offered Rate in effect on the date payment is made less the aggregate amount of interest and principal received by NBI on the ARS. In addition, if the aggregate amount of interest and principal received by NBI with respect to the ARS is higher than the Repurchase Price, upon deCODE's repurchase of the ARS pursuant to the exercise of the put or call option, NBI will be required to deliver to deCODE, in addition to the ARS, an amount equal to (A) the aggregate amount of principal and interest that it received less (B) the sum of (i) the Repurchase Price and (ii) ISK 375,000,000 (approximately $3,350,000 at current exchange rates). Due to the put and call options, the transaction was accounted for as a secured borrowing and as such, the ARS will remain on deCODE's Consolidated Balance Sheet and continue to be marked to market unless the put option as described above is not exercised prior to December 15, 2009.

***Long-Lived Assets, Goodwill and Intangibles***

We periodically review property and equipment, goodwill and intangibles for potential impairments and to assess whether their service lives have been affected by continued technological change and development. Should we determine that there has been an impairment of our fixed assets, goodwill or other intangible assets we would suffer an increase to our net loss or a reduction of our net income in the period such a determination is made. Should we determine that the pace of technological change or other matters dictate that we change the service lives or other estimates inherent in determining the carrying-values of our long-lived assets, there will be an impact on depreciation expense from the date of the change.

***Litigation and Other Contingencies***

We consider litigation and other claims and potential claims or contingencies in preparing our financial statements under generally accepted accounting principles in the United States of America. We maintain accruals for litigation and other contingencies when we believe a loss to be probable and reasonably estimated. In doing so, we assess the likelihood of any adverse judgments or outcomes with respect to legal and other matters as well as potential of probable losses. We base our accruals on information available at the time of such determination. Changes or developments in the relevant action or our strategy in such proceedings could materially affect our results of operations for any particular quarterly or annual period. Since the recognition of a loss is dependent upon factors not completely in the control of management, timing of a charge, if any, is difficult to predict with certainty.

***Share Based Payments***

We grant stock options to purchase our common stock to our employees and directors under our 2002 and 2006 Equity Incentive Plans. The benefits provided under these plans are subject to the provisions of Statement of Financial Accounting Standards No. 123R ("SFAS 123R"), *Share-Based Payment*, which we adopted effective January 1, 2006. We elected to use the modified prospective application in adopting SFAS 123R and therefore have not restated results for prior periods. The valuation provisions of SFAS 123R apply to new awards and to awards that are outstanding on the adoption date and subsequently modified or cancelled.

Stock option awards and restricted stock units generally vest over a three to four year period and expense is ratably recognized over those same time periods. The determination of fair value of stock-based payment awards on the date of grant using the Black-Scholes model is affected by our stock price, as well as the input of other assumptions. These assumptions include, but are not limited to, the expected term of stock options and our expected stock price volatility over the term of the awards. Changes in the assumptions can materially affect the fair value estimates.

SFAS 123R requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. If actual forfeitures vary from our estimates, we will recognize the difference in compensation expense in the period the actual forfeitures occur or when options vest.

***Recent Accounting Pronouncements***

Effective January 1, 2008, we implemented Statement of Financial Accounting Standard (SFAS) No. 157, *Fair Value Measurement*, (SFAS 157), for our financial assets and liabilities that are re-measured and reported at fair value at each reporting period, and non-financial assets and liabilities that are re-measured and reported at fair value at least annually. In accordance with the provisions of FSP FAS 157-2, Effective Date of FASB Statement No. 157, we deferred the implementation of SFAS 157 as it relates to our non-financial assets and non-financial liabilities that are recognized and disclosed at fair value in the financial statements on a nonrecurring basis until January 1, 2009. We are evaluating the impact this standard will have on our financial statements.

On December 12, 2007, EITF 07-01, *Accounting for Collaborative Arrangements Related to the Development and Commercialization of Intellectual Property*, (EITF 07-01), was issued. EITF- 07-01 prescribes the accounting for collaborations. It requires certain transactions between collaborators to be recorded in the income statement on either a gross or net basis within expenses when certain characteristics exist in the collaboration relationship. EITF 07-01 is effective for all of our collaborations existing on January 1, 2009 and for all subsequent collaborations. The adoption of this standard will not have a material impact on our financial statements or results of operations.

On December 4, 2007, SFAS No. 141(R), *Business Combinations*, (SFAS 141(R)), was issued. This Standard will require an acquiring company to measure all assets acquired and liabilities assumed, including contingent considerations and all contractual contingencies, at fair value as of the acquisition date. In addition, an acquiring company is required to capitalize IPR&D and either amortize it over the life of the product, or write it off if the project is abandoned or impaired. The Standard is effective for transactions occurring on or after January 1, 2009. We have not determined the effect that the adoption of SFAS 141(R) will have on our consolidated financial statements, but the effect will generally be limited to future acquisitions in 2009, except for certain tax treatment of previous acquisitions. SFAS 141(R) amended FASB Statement No. 109, Accounting for Income Taxes (SFAS 109), and FIN 48. Previously, SFAS 109 and FIN 48, respectively, generally required post-acquisitions adjustments to business combination related deferred tax asset valuation allowances and liabilities related to uncertain tax positions to be recorded as an increase or decrease to goodwill. SFAS 141(R) does not permit this accounting and generally will require any such changes to be recorded in current period income tax expense. Thus, after SFAS 141(R) is adopted, all changes to valuation allowances and liabilities related to uncertain tax positions established in acquisition accounting (whether the combination was accounted for under SFAS 141 or SFAS 141(R)) must be recognized in current period income tax expense.

On December 4, 2007, SFAS No. 160, *Noncontrolling Interests in Consolidated Financial Statements, an amendment of ARB No. 51*, (SFAS 160), was issued. This Standard changes the accounting for and reporting of noncontrolling or minority interests (now called noncontrolling interest) in consolidated financial statements. This Standard is effective January 1, 2009. When implemented, prior periods will

be recast for the changes required by SFAS 160. The adoption of this standard will not have a material impact on our financial statements and results of operations.

On March 19, 2008, SFAS No. 161, *Disclosures About Derivative Instruments and Hedging Activities*, (SFAS 161), was issued. This Standard enhances the disclosure requirements for derivative instruments and hedging activities. This Standard is effective January 1, 2009. Since SFAS No. 161 requires only additional disclosures concerning derivatives and hedging activities, adoption of SFAS No. 161 will not affect our financial condition, results of operations or cash flows.

**Item 7A.** ***Quantitative and Qualitative Disclosures About Market Risk***

The primary objectives of our investment activities are to preserve principal, maintain a high degree of liquidity to meet operating needs, and obtain competitive returns subject to prevailing market conditions. Investments are made primarily in high-grade corporate bonds, asset-backed debt securities and U.S. government agency debt securities. These investments are subject to risk of default, changes in credit rating and changes in market value. These investments are also subject to interest rate risk and will decrease in value if market interest rates increase. A hypothetical 100 basis point increase in interest rates would result in an immaterial decrease in the fair value of our investments as of December 31, 2008. Due to the nature of our investments and relatively short effective maturities of debt instruments, interest rate risk is mitigated. Changes in interest rates do not affect interest expense incurred on the Company's Convertible Notes, because they bear interest at a fixed rate. The market value of the Senior Convertible Notes was approximately $25.7 million on December 31, 2008.

As a consequence of the nature of our business and operations our reported financial results and cash flows are exposed to the risks associated with fluctuations in the exchange rates of the U.S. dollar, the Icelandic krona and other world currencies. We continue to monitor our exposure to currency risk. A hypothetical 10.0% decrease in value of the US dollar against the Icelandic krona would result in an immaterial loss on our Icelandic krona denominated non-U.S. dollar assets and liabilities. We have historically purchased instruments to hedge these general risks through the use of derivative financial instruments; however, we have no derivative instruments outstanding as of December 31, 2008.

As of December 31, 2008 we did not have any financing arrangements that were not reflected in our balance sheet.

**Item 8.** ***Financial Statements and Supplementary Data***

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
deCODE genetics, Inc.
Reykjavik, Iceland

We have audited the accompanying consolidated balance sheets of deCODE genetics, Inc. and subsidiaries (the "Company") as of December 31, 2008 and 2007, and the related consolidated statements of operations, changes in stockholders' deficit, and cash flows for each of the three years in the period ended December 31, 2008. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of deCODE Genetics, Inc. and subsidiaries as of December 31, 2008 and 2007, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2008, in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements for the year ended December 31, 2008 have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company's recurring losses from operations, its accumulated deficit and its net working capital position at December 31, 2008, raise substantial doubt about its ability to continue as a going concern. Management's plans concerning these matters are also discussed in Note 1 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 31, 2009 expressed an unqualified opinion on the Company's internal control over financial reporting.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
March 31, 2009

## deCODE genetics, Inc.
## CONSOLIDATED BALANCE SHEETS

| | December 31, | |
|---|---|---|
| | 2008 | 2007 |
| | (In thousands, except share amounts) | |
| ASSETS | | |
| Current assets: | | |
| Cash and cash equivalents | $ 3,701 | $ 54,172 |
| Investments | — | 10,003 |
| Receivables | 9,159 | 9,689 |
| Other current assets | 4,875 | 8,782 |
| Total current assets | 17,735 | 82,646 |
| Investments, non-current | 12,721 | 24,833 |
| Restricted cash and cash equivalents | 5,500 | 5,050 |
| Property and equipment, net | 20,629 | 23,142 |
| Goodwill | 10,055 | 10,055 |
| Intangible assets, net | 3,645 | 4,008 |
| Other long-term assets | 4,852 | 6,474 |
| Total assets | $ 75,137 | $ 156,208 |
| LIABILITIES AND STOCKHOLDERS' DEFICIT | | |
| Current liabilities: | | |
| Accounts payable | $ 12,202 | $ 8,618 |
| Accrued expenses and other current liabilities | 7,564 | 12,558 |
| Deferred revenue | 5,755 | 9,133 |
| Current portion of capital lease obligations | 2,202 | 3,155 |
| Current portion of finance obligation on sale-leaseback | 648 | 569 |
| Current portion of long-term debt | 249 | 224 |
| Total current liabilities | 28,620 | 34,257 |
| Deferred revenue | 6,219 | 6,219 |
| Deferred gain on sale-leaseback | 21,840 | 23,778 |
| Capital lease obligations, net of current portion | — | 2,202 |
| Finance obligation on sale-leaseback, net of current portion | 23,497 | 24,145 |
| Long-term debt, net of current portion | 216,037 | 211,257 |
| Commitments and contingencies (Note 16) | | |
| Stockholders' deficit: | | |
| Preferred stock, $0.001 par value; Authorized: 6,716,666 shares; Issued and outstanding: none | — | — |
| Common stock, $0.001 par value; Authorized: 150,000,000 shares; Issued and outstanding: 61,882,584 and 61,762,805 at December 31, 2008, respectively; Issued and outstanding: 61,745,072 at December 31, 2007 | 62 | 62 |
| Additional paid-in capital | 493,381 | 488,963 |
| Notes receivable | (1,900) | (2,536) |
| Accumulated deficit | (712,161) | (631,214) |
| Accumulated other comprehensive income | 103 | (925) |
| Treasury stock, 119,779 and 0 shares stated at cost at December 31, 2008 and 2007, respectively | (561) | — |
| Total stockholders' deficit | (221,076) | (145,650) |
| Total liabilities and stockholders' deficit | $ 75,137 | $ 156,208 |

The accompanying notes are an integral part of these consolidated financial statements.

deCODE genetics, Inc.

CONSOLIDATED STATEMENTS OF OPERATIONS

| | For the Years Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | (In thousands, except per share amounts) | | |
| Revenue | $ 58,095 | $ 40,403 | $ 40,510 |
| Operating expenses: | | | |
| Cost of revenue | 52,517 | 47,018 | 42,660 |
| Research and development | 30,726 | 53,825 | 57,108 |
| Selling, general and administrative | 28,318 | 27,139 | 25,206 |
| Total operating expenses | 111,561 | 127,982 | 124,974 |
| Operating loss | (53,466) | (87,579) | (84,464) |
| Interest income | 2,489 | 6,541 | 6,685 |
| Interest expense | (16,467) | (15,641) | (7,808) |
| Other non-operating income and (expense), net | (13,503) | 1,153 | 114 |
| Net loss | $(80,947) | $(95,526) | $(85,473) |
| Basic and diluted net loss per share | $ (1.32) | $ (1.57) | $ (1.49) |
| Shares used in computing basic and diluted net loss per share | 61,376 | 61,018 | 57,465 |

The accompanying notes are an integral part of these consolidated financial statements.

## deCODE genetics, Inc.

## CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' DEFICIT

### (In thousands, except share amounts)

| | Common Stock | Par Value | Additional Paid-In Capital | Notes Receivable | Deferred Compensation | Accumulated Deficit | Accumulated Other Comprehensive Income (Loss) | Treasury Stock | Total Stockholders' Deficit |
|---|---|---|---|---|---|---|---|---|---|
| **Balance at December 31, 2005** | 54,742,595 | $55 | $444,401 | $(2,898) | $(418) | $(450,215) | $(139) | $(123) | $ (9,337) |
| Issuance of common stock upon public offering, net of offering expenses of $2,276 | 6,000,000 | 6 | 27,594 | | | | | 124 | 27,724 |
| Issuance of common stock for the acquisition of UVS | 635,006 | 1 | 6,081 | | | | | | 6,082 |
| Issuance of common stock upon exercise of options | 171,796 | | 880 | (10) | | | | | 870 |
| Issuance of restricted common stock | 7,588 | | | | | | | | — |
| Elimination of deferred employee stock-based compensation upon adoption of SFAS 123R | | | (418) | | 418 | | | | — |
| Compensation arising from stock options | | | 4,301 | | | | | | 4,301 |
| Cancellation of note receivable and forfeiture of common stock | (1,000) | | | 6 | | | | (6) | — |
| Payment of notes | | | | 124 | | | | | 124 |
| Amortization of restricted common stock | | | 213 | | | | | | 213 |
| Comprehensive income (loss): | | | | | | | | | |
| Net loss for the year | | | | | | (85,473) | | | (85,473) |
| Other comprehensive income (loss): | | | | | | | | | |
| Foreign currency translation | | | | | | | 10 | | 10 |
| Unrealized gain on marketable securities | | | | | | | 107 | | 107 |
| Total comprehensive loss: | | | | | | | | | (85,356) |
| **Balance at December 31, 2006** | 61,555,985 | $62 | $483,052 | $(2,778) | $ — | $(535,688) | $ (22) | $ (5) | $ (55,379) |
| Issuance of common stock upon exercise of options | 77,492 | — | 148 | 4 | | | | 5 | 157 |
| Issuance of common stock upon exercise of warrants | 128,729 | | | | | | | | — |
| Issuance of restricted common stock | 16,184 | | | | | | | | — |
| Compensation arising from stock options | | | 5,745 | | | | | | 5,745 |
| Payment of notes | | | | 43 | | | | | 43 |
| Amortization of restricted common stock | | | 213 | | | | | | 213 |
| Cancellation of note receivable and forfeiture of common stock | (33,318) | | (195) | 195 | | | | | — |
| Comprehensive income (loss): | | | | | | | | | |
| Net loss for the year | | | | | | (95,526) | | | (95,526) |
| Other comprehensive income (loss): | | | | | | | | | |
| Foreign currency translation | | | | | | | (32) | | (32) |
| Unrealized loss on marketable securities | | | | | | | (871) | | (871) |
| Total comprehensive loss: | | | | | | | | | (96,429) |
| **Balance at December 31, 2007** | 61,745,072 | $62 | $488,963 | $(2,536) | $ — | $(631,214) | $(925) | $ — | $(145,650) |
| Issuance of common stock upon exercise of options | 2,500 | | 5 | | | | | | 5 |
| Issuance of common stock upon exercise of warrants | 55,555 | | 167 | | | | | | 167 |
| Issuance of restricted common stock | 79,457 | | | | | | | | — |
| Compensation arising from stock options | | | 4,246 | | | | | | 4,246 |
| Payment of notes | | | | 75 | | | | | 75 |
| Cancellation of note receivable and forfeiture of common stock | (113,000) | | | 561 | | | | (561) | — |
| Cancellation of restricted common stock | (6,779) | | | | | | | | — |
| Comprehensive income (loss): | | | | | | | | | |
| Net loss for the year | | | | | | (80,947) | | | (80,947) |
| Other comprehensive income (loss): | | | | | | | | | |
| Foreign currency translation | | | | | | | 117 | | 117 |
| Recognition of other-than-temporary loss on marketable securities, net | | | | | | | 911 | | 911 |
| Total comprehensive loss: | | | | | | | | | (79,919) |
| **Balance at December 31, 2008** | 61,762,805 | $62 | $493,381 | $(1,900) | $ — | $(712,161) | $ 103 | $(561) | $(221,076) |

The accompanying notes are an integral part of these consolidated financial statements.

## deCODE genetics, Inc.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

| | For the Years Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | (In thousands) | | |
| **Cash flows from operating activities:** | | | |
| Net loss | $(80,947) | $ (95,526) | $ (85,473) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | | |
| Depreciation and amortization | 5,780 | 5,674 | 7,389 |
| Amortization of deferred gain on sale-leaseback of real estate | (1,938) | (1,938) | (1,938) |
| Loss on investments | 13,027 | 7,790 | — |
| Stock-based compensation | 3,657 | 6,549 | 4,514 |
| (Gain) loss on disposal of equipment, net | 77 | (382) | (685) |
| Foreign currency translation | 116 | (33) | (4) |
| Amortization of debt discount | 5,029 | 4,662 | 264 |
| Amortization of deferred financing costs | 1,659 | 1,608 | 913 |
| Accretion on investments | — | (190) | — |
| Other | — | — | (33) |
| Changes in operating assets and liabilities: | | | |
| Receivables | 530 | (1,225) | (379) |
| Other current assets | 3,870 | 196 | (3,643) |
| Accounts payable | 2,144 | 5,741 | (1,986) |
| Accrued expenses | (4,405) | (2,391) | 652 |
| Deferred revenue | (3,378) | 5,576 | (4,760) |
| Net cash used in operating activities | (54,779) | (63,889) | (85,169) |
| CASH FLOWS FROM INVESTING ACTIVITIES: | | | |
| Purchase of investments | (5,500) | (152,860) | (326,070) |
| Sale of investments | 15,500 | 239,688 | 285,655 |
| Purchase of property and equipment | (1,540) | (3,484) | (6,282) |
| Proceeds from sale of property and equipment | — | 238 | 909 |
| Acquisition of UVS, net of cash acquired | — | — | 1,270 |
| Change in restricted cash and cash equivalents | (450) | (5,050) | — |
| Other | — | — | 94 |
| Net cash provided by (used in) investing activities | 8,010 | 78,532 | (44,424) |
| CASH FLOWS FROM FINANCING ACTIVITIES: | | | |
| Proceeds from convertible debt offering, net of financing costs | — | — | 52,947 |
| Proceeds from issuance of common stock and warrants | 172 | 148 | 28,660 |
| Repayment of notes receivable for common stock | 75 | 52 | 156 |
| Proceeds from short-term borrowings | — | — | 600 |
| Repayments of short-term borrowings | — | — | (268) |
| Proceeds from equipment sale-leaseback financing, net of transaction costs | — | 25,927 | 5,038 |
| Proceeds from equipment financing | — | — | 889 |
| Repayments of debt and capital lease obligations | (3,949) | (8,480) | (2,490) |
| Net cash (used in) provided by financing activities | (3,702) | 17,647 | 85,532 |
| Net (decrease) increase in cash and cash equivalents | (50,471) | 32,290 | (44,061) |
| Cash and cash equivalents at beginning of period | 54,172 | 21,882 | 65,943 |
| Cash and cash equivalents at end of period | $ 3,701 | $ 54,172 | $ 21,882 |
| Supplemental cash flow information: | | | |
| Cash paid for interest | $ 9,783 | $ 9,332 | $ 6,017 |
| Supplemental schedule of non-cash transactions | | | |
| Deferred gain on sale of property and equipment | $ — | $ 305 | $ 336 |
| Note receivable for sale of property | — | — | 222 |
| Equipment additions in accounts payable | 1,440 | — | — |
| Stock option bonuses in accrued expenses | — | 589 | — |

The accompanying notes are an integral part of these consolidated financial statements.

## 1. Organization and Business

References in these financial statements to deCODE refer to deCODE genetics, Inc., a Delaware company, and its wholly owned subsidiaries, Islensk erfdagreining ehf., an Icelandic company registered in Reykjavik, and its subsidiaries and MediChem Life Sciences, Inc., a Delaware corporation, and its subsidiaries.

With its headquarters in Reykjavik, Iceland, deCODE is a biopharmaceutical company developing and marketing products to improve the treatment, diagnosis and prevention of common diseases. deCODE applies its capabilities in chemistry and structural biology to the development of drugs in major therapeutic areas, and applies its discoveries in human genetics to bring to market DNA-based reference laboratory tests and consumer genome analysis services to assess individual risk to common diseases. deCODE's customers include major pharmaceutical companies, biotechnology firms, pharmacogenomics companies, government institutions, universities and other research institutions. deCODE's business is global, with its principal markets in the United States and in Europe.

deCODE's advantage in DNA-based disease risk assessment tests and personal genomics derived from its population approach to human genetics and the ability to apply its discoveries directly to the development of DNA-based reference laboratory tests for common diseases and to its retail genome scans. deCODE has in Iceland comprehensive population resources and one of the largest genotyping facilities in the world, enabling its scientists to effectively identify key variations in the sequence of the human genome associated with a major impact on individual risk of common diseases. Well-validated genetic variations conferring risk of disease are the basis for DNA-based reference laboratory tests and personal genome scans that can more accurately assess individual risk of disease. As virtually all common diseases have both genetic and environmental risk factors, measuring genetic risk is in deCODE's view a critical component for the realization of personalized medicine. By providing a more complete understanding of individual risk, such tests can empower better prevention in those conditions in which known lifestyle and environmental risk can be modified, as well as targeted screening and early intervention in diseases such as cancer.

The value of deCODE's drug discovery and development programs is derived from its integrated capabilities in structure-based drug design and medicinal chemistry. Through its structural biology and chemistry units based in the United States, deCODE can develop new and detailed understanding of the structure and binding sites of drug targets. This makes it possible to discover compounds that may have superior safety and tolerability profiles than existing drugs. deCODE has fully integrated capabilities ranging from targeted *in vitro* and model organism biology through cGMP manufacturing for clinical trials.

*Going Concern:* The financial statements have been prepared on a going-concern basis, which contemplates the recoverability of assets and the satisfaction of liabilities in the normal course of business. deCODE has recorded substantial operating and net losses over the past three years. Its cash flows used in operations have been $54,779,000, $63,889,000 and $85,169,000 in 2008, 2007 and 2006, respectively. In addition, the Company has significant amounts of long-term debt which requires interest payments of approximately $8,050,000 per annum. At December 31, 2008, deCODE had liquid funds available for operating activities (cash and cash equivalents) of $3,701,000 as compared to $64,175,000 (cash and cash equivalents together with current investments) at December 31, 2007. In January 2009 deCODE entered into an agreement with an Icelandic financial institution (NBI hf) pursuant to which NBI has purchased all auction rate securities ("ARS") owned by deCODE for an aggregate price of approximately $11.0 million (see Note 22). deCODE's planned operations require

immediate additional liquidity substantially in excess of the amounts noted above, raising substantial doubt about deCODE's ability to continue as a going concern.

*Management's Plans:* To address deCODE's immediate need for funds, management and the Board of Directors are exploring the possibilities of (i) selling some or all of deCODE's U.S. subsidiaries and/or its diagnostics and deCODEme businesses based in Iceland, (ii) granting licenses to specific diagnostic products, (iii) entering into a collaboration for gene sequencing, (iv) selling some or all of deCODE's clinical and pre-clinical drug discovery programs, (v) restructuring deCODE's outstanding convertible notes, and (vi) obtaining new equity financing. Closing on opportunities in (ii) and (vi) could provide cash flow to meet immediate needs. Achieving (v) could result in either a cash settlement of deCODE's convertible note obligation for substantially less than the carrying amount or in a conversion of the convertible notes into equity of deCODE. Receipt of additional equity financing to support operations in the longer term depends in large part on the outcomes of actions in (ii), (iii) and (v). Management and the board are having ongoing dialogues and negotiations with third parties in each of these areas. If deCODE's Board of Directors concludes that any of these options can be better implemented in a bankruptcy proceeding, deCODE will commence a proceeding under Chapter 11 of the U.S. Bankruptcy Code.

Whether in a bankruptcy proceeding or otherwise, the consummation of any of these approaches are dependent on successful negotiations with third parties and in many cases the availability of financing to such third parties. There can be no assurance that any potential transactions will be consummated or will result in sufficient funding to sustain operations. If deCODE is unable to raise additional capital through one or more of these options, it may be forced to liquidate its remaining assets and discontinue as a business.

## 2. Significant Accounting Policies

### *Basis of Presentation*

These financial statements are reported in United States dollars, deCODE's functional currency, and prepared in accordance with accounting principles generally accepted in the United States of America. Tabular amounts are stated in thousands, except per share amounts.

As discussed more fully in Note 1, deCODE does not have adequate cash flows from operations or, currently, access to sufficient available capital to meet its requirements for its 2009 operations. These factors raise significant uncertainty about deCODE's ability to continue as a going concern. The Consolidated Financial Statements do not include any adjustments relating to the recoverability or classification of recorded asset amounts or the amounts or classification of liabilities should deCODE be unable to continue as a going concern.

### *Principles of Consolidation*

The consolidated financial statements include the accounts and operations of deCODE genetics, Inc. and its subsidiaries, all of which are wholly-owned. All material intercompany balances and transactions have been eliminated.

### *Use of Estimates and Assumptions*

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make certain estimates and assumptions that

affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis deCODE evaluates its estimates, which include, among others, those related to collaborative arrangements, property and equipment, income taxes, litigation and other contingencies, materials and supplies valuation, derivatives, goodwill and intangible assets, investments and bad debts. deCODE bases its estimates on historical experience and on various other assumptions that management believes to be reasonable under the circumstances, the results of which form its basis for making judgments about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from those estimates.

***Uncertainties***

deCODE is subject to risks common to companies in the biotechnology industry including, but not limited to, development by deCODE or its competitors of new technological innovations, ability to market products or services, dependence on key personnel, dependence on key suppliers and many of deCODE's materials and supplies, protection of proprietary technology, ability to obtain additional financing, ability to negotiate collaborative arrangements, and compliance with governmental and other regulations.

***Concentration of Risk***

At December 31, 2008, deCODE has no significant off-balance sheet concentrations of credit risk such as foreign exchange contracts, option contracts or other foreign hedging arrangements. Financial instruments that potentially subject deCODE to concentrations of credit risk consist principally of investments made primarily in auction rate securities ("ARS"), money market funds, government and non-government debt securities and receivables. These instruments are subject to risk of default, changes in credit rating and changes in market value. Investments are also subject to interest rate risk and will decrease in value if market interest rates increase.

deCODE's cash and cash equivalents are deposited with financial institutions having a high credit rating (A-/A3 or better in the United States and the United Kingdom and Baa1 in Iceland). In Iceland the financial institutions are owned by the Government of Iceland and the credit rating of the government applies to the financial institutions at the end of 2008 as they are not separately rated. At December 31, 2008, deCODE had $1,124,000 of cash and cash equivalents held in Icelandic financial institutions. Deposits with banks may exceed the amount of insurance provided on such deposits. Generally, these deposits may be redeemed upon demand and, therefore, bear minimal risk.

At December 31, 2008 and 2007, 20% and 13%, respectively, of consolidated receivables were due from U.S. Government agencies.

***Fair Value of Short-Term Financial Instruments***

The fair value of short-term financial instruments, including cash and cash equivalents, investments, receivables, certain other current assets, trade accounts payable, certain accrued liabilities, and other current liabilities approximates their carrying amount in the financial statements due mainly to the short maturity of such instruments. Based on borrowing rates currently available to deCODE for capital lease obligations with similar terms, the carrying value of such of its debt obligations approximates fair value.

*Cash and Cash Equivalents*

Highly liquid investments with a maturity of ninety days or less at the date of purchase are considered cash equivalents.

*Investments*

deCODE invests its excess cash balances in marketable securities. deCODE classifies all of its investments as available-for-sale. Available-for-sale investments are reported at fair value as of each balance sheet date and any unrealized gains and losses are reported in stockholders' equity in accumulated other comprehensive income. Realized gains and losses are reported in Other non-operating income and (expense), net. If any adjustment to fair value reflecting a decline in the value of the investment is determined to be "other-than-temporary", the investment is marked to market through a charge to the consolidated statements of operations and reported in Other non-operating income and (expense), net. This includes losses due to changes in credit quality or interest rates judged to be other-than-temporary, including changes resulting from the disruption in the capital markets during 2008 and 2007. Fair value is generally determined with reference to quotations in active markets when available and, if not available, a valuation is performed. Valuation of available-for-sale securities for purposes of determining the amount of gains and losses is based on the specific identification method. Premiums and discounts associated with investments in bonds are amortized using the effective interest rate method. Classification of marketable securities as current or non-current is dependent upon management's intended holding period, the securities maturity date and liquidity considerations based on market conditions. If management intends to hold the securities for longer than one year or believes, based on circumstances, that the security may not be available for use in current operations, as of the balance sheet date, they are classified as non-current (see Note 7).

*Materials and Supplies*

Materials and supplies, included in deCODE's other current assets, are valued at the lower of cost (first-in, first-out method) or market. deCODE evaluates materials and supplies levels and expected usage on a periodic basis and records write-downs of value for obsolescence as required. At December 31, 2008 and 2007, materials and supplies were valued at $2,206,000 and $3,258,000, respectively.

In 2008, 2007 and 2006, deCODE used materials and supplies for which it had made provisions for in prior years as slow-moving, excess and obsolete, benefiting otherwise reported research and development expenses by $115,000, $148,000 and $837,000, respectively.

*Property and Equipment*

Property and equipment are recorded at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the related assets of generally three to four years for laboratory equipment, five years for furniture and fixtures, and three to five years for other equipment. Maintenance costs are expensed as incurred, while major betterments are capitalized. When assets are retired or otherwise disposed of, the assets and related accumulated depreciation or amortization are eliminated from the accounts and any resulting gain or loss is reflected in the statement of operations.

*Capital Leases*

Assets held under capital lease agreements are initially recorded at the lower of the fair market value of the related asset or the present value of the future minimum rental payments using interest rates appropriate at the inception of the lease. Property and equipment subject to capital lease agreements are amortized over the shorter of the life of the lease or the estimated useful life of the asset unless the lease transfers ownership or contains a bargain purchase option, in which case the leased asset is amortized over the estimated useful life of such asset.

*Impairment of Long-Lived Assets and Goodwill*

deCODE periodically reviews long-lived assets for potential impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets held for use is measured by comparing the carrying amount of an asset to the undiscounted estimated future cash flows expected to be generated by the asset. In estimating expected future cash flows for determining whether an asset is impaired, assets are grouped at the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other groups of assets. If any such assets are considered to be impaired, the impairment to be recognized is the amount by which the carrying amount of the assets exceeds its fair value.

deCODE reviews goodwill annually and whenever events or changes in circumstances suggest that the carrying value of an asset may not be recoverable. For purposes of the goodwill impairment tests, deCODE identifies its reporting units, identifies the assets and liabilities of the reporting units and performs impairment tests on the goodwill associated with them. Goodwill impairment is deemed to exist if the net book value of a reporting unit exceeds its estimated fair value. To identify potential impairments deCODE compares fair value of a reporting unit with its carrying amount, including goodwill. For this purpose, deCODE estimates fair value of a reporting unit using analyses of comparable companies and recent comparable transactions.

*Finance Costs Related to Long-Term Debt*

Costs associated with obtaining long-term debt are deferred and amortized as interest expense over the term of the debt. Remaining unamortized deferred financing costs included in long-term assets were $4,832,000 and $6,454,000 at December 31, 2008 and 2007, respectively.

*Revenue Recognition*

deCODE records revenue provided that there is persuasive evidence that an arrangement exists, the price is fixed and determinable, services were rendered and collectibility is reasonably assured. deCODE has entered into research, development and commercialization alliances and collaborations with major pharmaceutical and biotechnology companies. The key components of the commercial terms of such alliance arrangements typically include one or more of the following: research funding; up-front, exclusivity, technology access, and technology development fees; milestone payments; license or commercialization fees; and royalties or profit sharing from the commercialization of products.

deCODE's revenues from research and development collaboration agreements are recorded and recognized in accordance with the applicable performance requirements and terms of the respective contracts, generally either (i) as contract research costs are incurred, usually ratably over the period of effort, (ii) according to the level of efforts expended based on the ratio of contract research costs

incurred to expected total costs, or (iii) upon the achievement of substantive milestones. deCODE's accounting recognition policies with respect to each significant element of deCODE's revenue is summarized as follows:

*Genomic services, research funding and other service fees.* Genomic services revenue is generally recognized upon completion. Research funding is recognized as earned, typically ratably over the period of effort. Funding payments are not refundable in the event that the related efforts are not successful. Other service revenues from negotiated rate contracts are recognized based upon the terms of the underlying contract generally either (i) on a per diem basis as services are rendered; (ii) on the basis of efforts expended, generally upon the ratio of costs incurred to total expected costs of providing the service; or (iii) upon completion of the service rendered. Any losses on contracts are provided for when they are determinable. Included in revenue are billings to customers for the cost of materials purchased by deCODE.

*Milestone payments.* Under the substantive milestone method deCODE records revenue when the milestone has been achieved and payment is due and payable under the terms of the respective agreement and deCODE recognizes revenue when acknowledgement of achievement of applicable performance requirements is received from the collaborator. Milestone payments without the above characteristics are recognized on a retrospective basis over the contractual term of the underlying agreement.

In arrangements with multiple elements, if the milestone is substantive in nature and there is uncertainty in the achievement of the milestone and there is no further obligation on the part of deCODE, deCODE records revenue when the milestone has been achieved and payment is due and payable under the terms of the respective agreement and deCODE recognizes revenue when acknowledgement of achievement of applicable performance requirements is received from the collaborator ("Milestone Payment Method"). If the milestone is earned and there is further obligation under the contract for performance by deCODE, then deCODE will record revenue when the milestone has been achieved and payment is due and payable under the terms of the respective agreement and deCODE retroactively recognizes revenue through the current period based on the total contractual term and amortizes the balance over the remaining contractual term.

*Up-front, exclusivity, technology access, and technology development fees.* deCODE recognizes revenue from non-refundable fees not specifically tied to a separate earnings process ratably over the expected customer relationship period or estimated period of performance. Changes in estimates could impact revenue in the period the estimate is changed. If deCODE's estimate of the period of performance shortens or lengthens, the amount of revenue we recognized from such non-refundable fees not specifically tied to a separate earnings process could increase or decrease in the period the change in estimate becomes known; future related revenues would be adjusted accordingly.

*Grant Revenue.* Research grants and contracts that provide for payments to deCODE for work performed are recognized as revenue when the related expense is incurred and deCODE has obtained necessary governmental approval to use the grant funds for these expenses. Revenues under these contracts will be recognized as deCODE incurs costs related to the contracts.

*Deferred Revenue.* In general, prerequisites for billings are established by contractual terms including predetermined payment schedules, the achievement of contract milestones, or submission of appropriate billing detail. Deferred revenue represents amounts billed in accordance with contract

terms but not yet recognized according to deCODE's accounting policy. Unbilled costs and fees arise when revenue has been recognized but customers have not been billed.

*Cost of Revenue*

deCODE's cost of revenue is comprised of costs of services provided to customers and collaborators, including the entirety of costs incurred in connection with programs that have been partnered and on which deCODE receives research funding. At times, deCODE may dedicate additional resources and incur costs in addition to costs covered by research funding received in such collaborative programs. Major components of deCODE's cost of revenue include personnel costs, namely salaries, benefits and stock-based compensation; materials and supplies; services contracted for research activities; other third party fees and costs; depreciation of property and equipment; amortization of patents and other intangible assets; and items of overhead, including allocations of various administrative and facilities related costs.

***Research and Development Expenses***

All costs associated with internal research and development and research and development services, including pre-clinical and clinical trial studies, which deCODE has externally contracted are expensed as incurred.

***Patent Costs***

Patent application costs are charged to legal expense as incurred and classified in selling, general and administrative expense.

***Stock-Based Compensation***

On January 1, 2006, deCODE adopted Statement of Financial Accounting Standards ("SFAS") No. 123R, *Share-Based Payment* ("SFAS 123R"), which requires companies to recognize in the statement of operations the grant-date fair value of stock awards issued to employees and directors over the performance period which is typically the vesting term. deCODE adopted SFAS 123R using the modified prospective transition method. In accordance with the modified prospective transition method, deCODE's Consolidated Financial Statements for prior periods have not been restated to reflect the impact of SFAS 123R. deCODE elected to use the short-cut method for determining the historical pool of windfall tax benefits in accordance with FASB Staff Position SFAS 123R-3, *Transition Election to Accounting for the Tax Effects of Share-Based Payment Awards* and the tax law ordering approach for purposes of determining whether an excess tax benefit has been realized.

***Foreign Currency Translation***

deCODE's functional currency is the U.S. dollar. One of its smaller subsidiaries in Iceland uses the local currency, the Icelandic krona, as the functional currency. For this entity, the assets and liabilities are translated into U.S. dollars at exchange rates in effect at the balance sheet date. Income and expense items are translated at the average exchange rates prevailing during the period. Gains and losses from translation are included in accumulated other comprehensive income.

Foreign currency transaction gains and losses are reported according to the exchange rates prevailing on the transaction date and are included in the consolidated statements of operations

classified as Other non-operating income and (expense), net. Net transaction and translation gains (losses) recorded were ($280,000), $690,000 and $114,000 in 2008, 2007 and 2006, respectively.

***Income Taxes***

deCODE accounts for income taxes using the liability method, which requires the recognition of deferred tax assets or liabilities for the temporary differences between the financial reporting and tax bases of deCODE's assets and liabilities and for tax loss carryforwards at enacted statutory tax rates in effect for the years in which the differences are expected to reverse. A valuation allowance is applied against any deferred tax asset if, based on the weighted available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

deCODE accounts for uncertain tax positions in accordance with FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes—an Interpretation of FASB Statement No. 109*, ("FIN 48"). FIN 48 prescribes a recognition threshold and measurement attribute for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return and also provides guidance on various related matters such as derecognition, interest and penalties, and disclosure. deCODE recognizes interest and penalties, if any, related to unrecognized tax benefits in income tax expense.

***Computation of Net Loss per Share***

Basic net loss per share is computed using net loss available to common stockholders and the weighted-average number of common shares outstanding. The weighted-average number of common shares outstanding during the period is the number of shares determined by relating the portion of time within a reporting period that common shares have been outstanding to the total time in that period.

Diluted net loss per share is computed using the weighted-average number of common shares outstanding during the period, plus the dilutive effect of potential common shares. Diluted net loss per share does not differ from basic net loss per share in all periods presented as potential common shares are antidilutive for all such periods and are, therefore, excluded from the calculation.

***Recent Accounting Pronouncements***

Effective January 1, 2008, deCODE implemented Statement of Financial Accounting Standard (SFAS) No. 157, *Fair Value Measurement*, (SFAS 157), for its financial assets and liabilities that are re-measured and reported at fair value at each reporting period, and non-financial assets and liabilities that are re-measured and reported at fair value at least annually. In accordance with the provisions of FSP FAS 157-2, Effective Date of FASB Statement No. 157, deCODE deferred the implementation of SFAS 157 as it relates to its non-financial assets and non-financial liabilities that are recognized and disclosed at fair value in the financial statements on a nonrecurring basis until January 1, 2009. deCODE is evaluating the impact this standard will have on its financial statements.

On December 12, 2007, EITF 07-01, *Accounting for Collaborative Arrangements Related to the Development and Commercialization of Intellectual Property*, (EITF 07-01), was issued. EITF- 07-01 prescribes the accounting for collaborations. It requires certain transactions between collaborators to be recorded in the income statement on either a gross or net basis within expenses when certain characteristics exist in the collaboration relationship. EITF 07-01 is effective for all of deCODE's

collaborations existing on January 1, 2009 and for all subsequent collaborations. The adoption of this standard will not have a material impact on deCODE's financial statements or results of operations.

On December 4, 2007, SFAS No. 141(R), *Business Combinations*, (SFAS 141(R)), was issued. This Standard will require an acquiring company to measure all assets acquired and liabilities assumed, including contingent considerations and all contractual contingencies, at fair value as of the acquisition date. In addition, an acquiring company is required to capitalize IPR&D and either amortize it over the life of the product, or write it off if the project is abandoned or impaired. The Standard is effective for transactions occurring on or after January 1, 2009. deCODE has not determined the effect that the adoption of SFAS 141(R) will have on its consolidated financial statements, but the effect will generally be limited to future acquisitions in 2009, except for certain tax treatment of previous acquisitions. SFAS 141(R) amended FASB Statement No. 109, Accounting for Income Taxes (SFAS 109), and FIN 48. Previously, SFAS 109 and FIN 48, respectively, generally required post-acquisitions adjustments to business combination related deferred tax asset valuation allowances and liabilities related to uncertain tax positions to be recorded as an increase or decrease to goodwill. SFAS 141(R) does not permit this accounting and generally will require any such changes to be recorded in current period income tax expense. Thus, after SFAS 141(R) is adopted, all changes to valuation allowances and liabilities related to uncertain tax positions established in acquisition accounting (whether the combination was accounted for under SFAS 141 or SFAS 141(R)) must be recognized in current period income tax expense.

On December 4, 2007, SFAS No. 160, *Noncontrolling Interests in Consolidated Financial Statements, an amendment of ARB No. 51*, (SFAS 160), was issued. This Standard changes the accounting for and reporting of noncontrolling or minority interests (now called noncontrolling interest) in consolidated financial statements. This Standard is effective January 1, 2009. When implemented, prior periods will be recast for the changes required by SFAS 160. The adoption of this standard will not have a material impact on deCODE's financial statements and results of operations.

On March 19, 2008, SFAS No. 161, *Disclosures About Derivative Instruments and Hedging Activities*, (SFAS 161), was issued. This Standard enhances the disclosure requirements for derivative instruments and hedging activities. This Standard is effective January 1, 2009. Since SFAS No. 161 requires only additional disclosures concerning derivatives and hedging activities, adoption of SFAS No. 161 will not affect deCODE's financial condition, results of operations or cash flows.

**3. Revenue**

Significant elements of deCODE's revenue are summarized as follows:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | (In thousands) | | |
| Genomic services | $23,613 | $ 5,753 | $ 2,471 |
| Research funding and other service fees | 15,390 | 16,930 | 16,248 |
| Government research contracts and grant funding | 16,880 | 14,538 | 16,922 |
| Milestone payments and other | 2,212 | 3,182 | 4,869 |
| Total revenue | $58,095 | $40,403 | $40,510 |

The following table represents revenue generated by geographic area:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | (In thousands) | | |
| United States | $20,960 | $19,753 | $16,816 |
| Iceland | 37,135 | 20,650 | 23,694 |
| | $58,095 | $40,403 | $40,510 |

During the years ended December 31, 2008 and 2007, deCODE performed services totaling $163,000 and $246,000, respectively, for employers of members of deCODE's Board of Directors. During the year ended December 31, 2008 deCODE purchased services totaling $258,000 from employers of members of deCODE's Board of Directors.

Significant collaborative agreements, contracts and grants are as follows:

***F. Hoffmann-La Roche (Roche)***

*Therapeutics.* In November 2004, we signed a three-year agreement with Roche to co-develop inhibitors of PDE4 for the prevention and treatment of vascular disease, including stroke. This agreement continued work advanced under a 2002 agreement, and focused on optimizing lead compounds identified under the previous agreement and beginning clinical development. During the term of the agreement we received $6.0 million of research funding. We will share drug discovery and clinical trials costs under this agreement, and we may receive milestone payments and royalties based on drug sales.

*Diagnostics.* In June 2001, we signed a five-year alliance with Roche's diagnostics division and through June 2006 we collaborated to develop and market DNA-based diagnostics for major diseases. During the term of the alliance, which has now expired, we received $44,250,000 in research funding, up-front fees and milestone payments under the agreement and we may receive additional milestone payments upon the achievement of research and development milestones by Roche and royalties on the sales of diagnostic products developed by Roche.

Revenues from these alliances with Roche amounted to $0, $2,000,000 and $6,722,000 for the years ended December 31, 2008, 2007 and 2006, respectively. Costs incurred with these collaborative

programs with Roche amounted to $0, $0 and $6,437,000 for the years ended December 31, 2008, 2007 and 2006, respectively.

For the years ended December 31, 2008, 2007 and 2006, Roche represented 0%, 5% and 17%, respectively, of consolidated revenue.

***Merck & Co, Inc. (Merck)***

*Obesity.* In September 2002, deCODE entered into a three year alliance with Merck aimed at developing new treatments for obesity. Under the alliance, deCODE was to combine research efforts with Merck in the genetics of obesity to identify, validate and prioritize a series of drug targets to take into development. During the three-year research program, which has now expired, deCODE had received research funding, technology access fees and milestone payments in the aggregate amount of $27.3 million. Subject to Merck's developing products based on collaboration discoveries, deCODE may also receive development milestones and royalties. deCODE has discovered three genes linked to obesity under this alliance, and Merck has generated a lead series of compounds against one of the targets deCODE validated through deCODE's genetics research.

Revenues from this alliance with Merck amounted $0, $1,000,000 and $1,000,000 for the years ended December 31, 2008, 2007 and 2006, respectively. Costs incurred in connection with this alliance with Merck amounted to $0 for each of the years ended December 31, 2008, 2007 and 2006.

*Information-Rich Clinical Trials.* In February 2004, deCODE entered into an agreement with Merck which provides that deCODE will conduct information-rich clinical trials on a range of Merck's developmental compounds that Merck selects for inclusion in the program. The term of the alliance is seven years, subject to termination by Merck after five years. deCODE will receive royalties on sales of drugs and diagnostics developed as part of the alliance, will receive milestone payments as compounds or pharmacogenomic tests reach the market, will receive research funding for the clinical development of compounds and pharmacogenomic analysis, and received a one-time technology access fee of $10,000,000. A contingency clause on the technology access fee provides that if deCODE rejects the first two non-exclusive development compounds that Merck presents to the collaboration, then Merck has the right to request a refund of $2,500,000 of the technology access fee. The remaining amount of the technology access fee is non-refundable. To date, Merck has not selected any compounds for development under the agreement.

There were no revenue or costs of revenue associated with this alliance for years ended December 31, 2008, 2007 or 2006.

***Grant Funding***

deCODE has received various research grants from divisions of the United States National Institutes of Health (NIH), the Commission of the European Communities (EC) and private foundations. Research grants for multiple years are based on approved budgets with budgeted amounts subject to approval on an annual basis. NIH grants generally provide for 100% reimbursement of allowable expenditures while the grant under the EC generally provides for fifty percent reimbursement

of allowable research and development related expenditures. deCODE's significant research grants include:

*National Institutes of Allergy and Infectious Diseases (NIAID).* In September 2004, deCODE was awarded a five-year $23,900,000 contract by the NIAID, a division of NIH. Under the contract, deCODE is applying its population approach and resources to discover genetic factors associated with susceptibility to certain infectious diseases and with responsiveness to vaccines targeting such diseases. Revenues from this contract with NIAID amounted to $5,581,000, $3,807,000 and $5,566,000 for the years ended December 31, 2008, 2007 and 2006, respectively.

For the years ended December 31, 2008, 2007 and 2006, divisions of the NIH represented 22%, 22% and 33%, respectively, of consolidated revenue. For the years ended December 31, 2008, 2007 and 2006, the EC represented 7%, 14% and 8%, respectively, of consolidated revenue.

**4. Cost of Revenue**

deCODE's cost of revenue consists of the costs of services provided to customers and collaborators and the costs of programs under research contracts and grants, including: (i) the entirety of the costs incurred in connection with programs that have been partnered and on which deCODE receives research funding; (ii) costs associated with other service fee revenues; and (iii) the total amount of those costs incurred in connection with discovery and development work performed under research contracts and grants.

Significant elements of deCODE's revenue and cost of revenue are summarized as follows:

| | Year Ended December 31, 2008 | | |
|---|---|---|---|
| | Revenue | Cost of Revenue | Net |
| | | (In thousands) | |
| Genomic services, research funding and other service | $41,215 | $31,121 | $10,094 |
| Government research contracts and grant funding | 16,880 | 21,396 | (4,516) |
| Total | $58,095 | $52,517 | $ 5,578 |

| | Year Ended December 31, 2007 | | |
|---|---|---|---|
| | Revenue | Cost of Revenue | Net |
| | | (In thousands) | |
| Genomic services, research funding and other service | $25,865 | $27,582 | $(1,717) |
| Government research contracts and grant funding | 14,538 | 19,436 | (4,898) |
| Total | $40,403 | $47,018 | $(6,615) |

| | Year Ended December 31, 2006 | | |
|---|---|---|---|
| | Revenue | Cost of Revenue | Net |
| | (In thousands) | | |
| Genomic services, research funding and other service | $23,588 | $21,766 | $ 1,822 |
| Government research contracts and grant funding | 16,922 | 20,894 | (3,972) |
| Total | $40,510 | $42,660 | $(2,150) |

**5. Research and Development**

deCODE's research and development expenses consist of the costs of its own proprietary programs comprised as follows:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | (In thousands) | | |
| Salaries and other personnel costs | $12,859 | $18,889 | $20,440 |
| Materials and supplies | 5,583 | 12,371 | 7,495 |
| Contractor services and other third party costs | 5,038 | 12,961 | 19,109 |
| Overhead expenses | 3,630 | 5,510 | 5,107 |
| Depreciation and amortization | 2,482 | 2,264 | 3,287 |
| Stock-based compensation | 1,134 | 1,830 | 1,670 |
| | $30,726 | $53,825 | $57,108 |

In November 2003, deCODE acquired an exclusive worldwide license from Bayer HealthCare AG (Bayer) to develop and commercialize a small molecule compound (now known as DG031) that is active against a key target, located within an inflammatory pathway, made by a gene isolated at deCODE that predisposes to myocardial infarction, or heart attack. deCODE is obligated to make development milestone payments to Bayer as the compound advances towards market approval and will make royalty payments to Bayer based upon sales of the compound as a marketed drug.

In May 2006, deCODE entered into a strategic alliance with Illumina, Inc. ("Illumina") to develop and commercialize molecular diagnostic products. Under the terms of the agreement, deCODE and Illumina will share development costs equally and split operating profits from the sale of diagnostic tests.

## 6. Net Loss Per Common Share

The following potentially dilutive common share equivalents were excluded from the calculations of diluted net loss per share because their effect was antidilutive:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | | (Shares) | |
| Warrants to purchase shares of common stock | 455,965 | 856,371 | 2,385,022 |
| Options to purchase shares of common stock | 8,453,355 | 7,773,559 | 4,975,074 |
| Restricted shares subject to vesting or with an associated outstanding non-recourse promissory note | 289,973 | 592,146 | 709,497 |
| Shares of common stock issuable upon conversion of 3.5% senior convertible notes | 16,428,572 | 16,428,572 | 16,428,572 |
| | 25,627,865 | 25,650,648 | 24,498,165 |

## 7. Investments

deCODE's marketable securities are classified as available for sale and are summarized as follows:

| | Cost | Carrying Value | Unrealized Gains (Losses) In OCI |
|---|---|---|---|
| | | (In thousands) | |
| **December 31, 2008** | | | |
| Auction rate securities (non-current) | $33,500 | $12,721 | $— |

| | Cost | Carrying Value | Unrealized Gains (Losses) In OCI |
|---|---|---|---|
| | | (In thousands) | |
| **December 31, 2007** | | | |
| Auction rate securities | $ 5,000 | $ 5,000 | $ — |
| Agency bond | 5,000 | 5,003 | 3 |
| Total current investments | 10,000 | 10,003 | 3 |
| Auction rate securities (non-current) | 33,500 | 24,833 | (914) |
| Total investments | $43,500 | $34,836 | $(911) |

There were no unrealized gains and losses at December 31, 2008 and there were $3,000 and $914,000, respectively, at December 31, 2007.

| | December 31, 2008 |
|---|---|
| | (In thousands) |
| Contractual maturity of investments: | |
| Maturing after 10 years | $10,311 |
| No maturity date (perpetual) | 2,410 |
| | $12,721 |

At December 31, 2008, deCODE held investments in Auction Rate Securities ("ARS") with original purchase principal values totaling $33,500,000, which are classified as non-current investments on the balance sheet. The investments in ARS held by deCODE are private placement securities with long-term nominal maturities for which the interest rates are reset through a Dutch auction process at pre-determined calendar intervals, generally each month. This mechanism generally allows existing investors to rollover their holdings and continue to own their respective securities or liquidate their holdings by selling their securities at par value. deCODE generally invested in these securities for short periods of time as part of its cash management program. However, the recent uncertainties in the credit markets have prevented deCODE from liquidating holdings of its remaining ARS in recent auctions because the amount of securities submitted for sale has exceeded the amount of purchase orders resulting in multiple failed auctions.

deCODE's investments in ARS represent interests in debt obligations, namely life insurance wrapped issues, of companies offering credit derivatives, and of entities on which monoline insurers retain capital put rights. Consistent with deCODE's investment policy guidelines, all of the ARS investments were rated as investment grade (at least A or better) at the time of purchase.

The estimated market value of deCODE's non current investments in ARS at December 31, 2008 and 2007 was $12,721,000 and $24,833,000, respectively, which reflects a $20,779,000 and $8,667,000 adjustment, respectively, to the principal value of $33,500,000. Although the ARS continue to pay interest according to their stated terms, based on valuation models and an analysis of other-than-temporary impairment factors, deCODE has recorded an impairment charge of $12,112,000 and $7,752,000 in Other non-operating income and (expense), net in the Statements of Operations for the years ended December 31, 2008 and 2007, respectively, reflecting the portion of ARS holdings that deCODE has concluded have an other-than-temporary decline in value. At December 31, 2007 deCODE had recognized an unrealized loss of $914,000 for those ARS for which the loss was previously believed to be temporary but determined to be other-than-temporary in 2008.

In January 2009 deCODE entered into an agreement to sell the ARS, which was accounted for as a secured borrowing, see Note 22, Subsequent Events, for further details.

**8. Property and Equipment**

Property and equipment consist of the following:

| | December 31, | |
|---|---|---|
| | 2008 | 2007 |
| | (In thousands) | |
| Land | $ 2,303 | $ 2,303 |
| Building | 16,147 | 15,879 |
| Laboratory equipment | 32,319 | 30,142 |
| Furniture and fixtures | 5,241 | 5,307 |
| Other equipment | 2,568 | 2,735 |
| | 58,578 | 56,366 |
| Less: accumulated depreciation and amortization | (37,949) | (33,224) |
| Total | $ 20,629 | $ 23,142 |

The total depreciation and amortization expense of property and equipment for the years ended December 31, 2008, 2007 and 2006 was $5,417,000, $4,954,000 and $6,049,000, respectively.

Property and equipment also includes amounts for certain fixed assets financed under capital lease or finance obligations. The net book value of all of deCODE's property and equipment subject to capital lease and finance obligations was $16,177,000 and $19,953,000, respectively, as of December 31, 2008 and 2007, respectively. deCODE's capital lease obligations are collateralized by the assets to which the obligations relate.

Long-lived assets located in the United States and Iceland were $22,298,000 and $16,883,000, respectively, at December 31, 2008 and $23,452,000 and $20,227,000, respectively, at December 31, 2007.

**9. Acquisition of UVS**

On January 17, 2006, deCODE acquired 100% of the outstanding shares of Urdur Verandi Skuld ehf. ("UVS"), a privately-held cancer research firm, from Iceland Genomics Corporation, Inc. ("IGC"), both companies having their principal offices in Reykjavik, Iceland. To acquire UVS, deCODE paid $6,137,000 including 635,006 shares of deCODE common stock valued at $6,082,000 (based upon the average closing price of deCODE common stock two days before and after the acquisition date) and approximately $55,000 for acquisition related costs. As part of the transaction, deCODE acquired research rights for blood and tissue samples and clinical data for various types of cancers which deCODE has added to its samples for research and development purposes. deCODE has included the results of operations of the acquired entity in deCODE's consolidated statements of operations from the date of acquisition. Because the activity from the beginning of the period to the acquisition date was not material, no pro-forma information is presented.

The purchase price was allocated to the estimated fair value of the acquired tangible and intangible assets and assumed liabilities as follows (amounts in thousands):

| | |
|---|---|
| Cash | $1,270 |
| Net liabilities acquired | (719) |
| Goodwill | 1,191 |
| Identifiable intangible assets | 4,395 |
| | $6,137 |

The purchase price was allocated to the net assets acquired based on their estimated fair values at the date of acquisition. The excess of the purchase price over the estimated fair value of the net assets acquired amounted to $1,191,000, which was allocated to goodwill. Under Icelandic tax law goodwill is not deductible for tax purposes.

The identifiable intangible assets acquired consist of the exclusive rights to perform research on blood and tissue samples and related clinical data which were valued at $4,395,000 and will be amortized over a period of 15 years, the estimated useful life of the assets.

**10. Intangible Assets and Goodwill**

Intangible assets and goodwill consist of the following:

| | | Year Ended December 31, 2008 | | |
|---|---|---|---|---|
| | Estimated Life | Gross | Accumulated Amortization | Net |
| | | | (In thousands) | |
| Developed technology | 5 years | $ 4,560 | $4,560 | $ — |
| Acquired research rights | 15 years | 4,395 | 879 | 3,516 |
| Patents | 5-7 years | 380 | 326 | 54 |
| Royalty-free licenses | 10 years | 230 | 155 | 75 |
| Other | 5 years | 320 | 320 | — |
| Total intangible assets | | $ 9,885 | $6,240 | $ 3,645 |
| Goodwill | Indefinite | $10,055 | $ — | $10,055 |

| | | Year Ended December 31, 2007 | | |
|---|---|---|---|---|
| | Estimated Life | Gross | Accumulated Amortization | Net |
| | | | (In thousands) | |
| Developed technology | 5 years | $ 4,560 | $4,560 | $ — |
| Acquired research rights | 15 years | 4,395 | 586 | 3,809 |
| Patents | 5-7 years | 380 | 278 | 102 |
| Royalty-free licenses | 10 years | 230 | 133 | 97 |
| Other | 5 years | 320 | 320 | — |
| Total intangible assets | | $ 9,885 | $5,877 | $ 4,008 |
| Goodwill | Indefinite | $10,055 | $ — | $10,055 |

*Intangible Assets*

Aggregate amortization expense was $363,000, $568,000 and $1,340,000, for the years ended December 31, 2008, 2007 and 2006, respectively. These amounts were included in research and development expenses for all periods presented. As of December 31, 2008 estimated future amortization expense is as follows:

| | |
|---|---|
| 2009 | $ 338 |
| 2010 | 331 |
| 2011 | 331 |
| 2012 | 301 |
| 2013 | 293 |
| Thereafter | 2,051 |
| Total | $3,645 |

*Goodwill*

deCODE's goodwill resulted from the acquisitions of MediChem in 2002 and UVS in 2006. Goodwill is tested for impairment annually as of September 30 and whenever changes in the circumstances indicate goodwill could be impaired. deCODE completed its annual goodwill impairment tests as of September 30, 2008, 2007 and 2006 and no impairments resulted. During the fourth quarter of 2008, deCODE experienced further declines in the market value of its common stock and a further increased stockholder's deficit. These factors, along with global economic conditions, were determined to be a triggering event under SFAS 142 and accordingly an interim impairment test was performed as of December 31, 2008. As a result of this interim test, deCODE determined that it passed step one of the goodwill impairment test prescribed by SFAS 142. Because the fair value of the reporting unit exceeded its carrying value there was no need to perform the second step of the impairment test and there was no impairment recognized as of December 31, 2008.

**11. Accrued Expenses and Other Current Liabilities**

Accrued expenses and other current liabilities consist of the following:

| | December 31, | |
|---|---|---|
| | 2008 | 2007 |
| | (In thousands) | |
| Salaries and other employee benefits | $2,771 | $ 6,241 |
| Accrued interest | 1,677 | 1,677 |
| Other current liabilities | 3,116 | 4,640 |
| Total | $7,564 | $12,558 |

**12. Debt**

Long-term debt consists of the following:

| | December 31, | |
|---|---|---|
| | 2008 | 2007 |
| | (In thousands) | |
| Senior convertible notes, net of discount of $14,045,000 and $19,074,000 at December 31, 2008 and 2007, respectively | $215,955 | $210,926 |
| Equipment notes | 331 | 555 |
| Total | 216,286 | 211,481 |
| Less current portion | 249 | 224 |
| Long-term portion | $216,037 | $211,257 |

As of December 31, 2008 principal payments on long-term debt are as follows:

| | |
|---|---|
| 2009 | $ 249 |
| 2010 | 82 |
| 2011 | 230,000 |
| | $230,331 |

*Senior Convertible Notes*

In April 2004, deCODE completed an offering of $150,000,000 principal amount 3.5% Senior Convertible Notes (the "2004 Notes") due 2011 to qualified institutional buyers. The 2004 Notes are convertible into shares of deCODE common stock, at the option of the holder, at a price of $14.00 per share (fair market value of $10.60 on date of issuance), which is equivalent to an initial conversion rate of approximately 71.4286 shares per $1,000 principal amount of the Notes. deCODE may redeem the 2004 Notes beginning April 20, 2009. Interest is payable semi-annually on April 15 and October 15. From this offering, deCODE received net proceeds of $143,805,000. deCODE recorded deferred offering costs of $6,195,000 which are being amortized to interest expense over the life of the 2004 Notes (through April 15, 2011). During the years ended December 31, 2008, 2007 and 2006, interest expense of $887,000, $897,000 and $885,000 was recorded in the Consolidated Statements of Operations related to the deferred offering cost amortization. Deferred financing costs related to the 2004 Notes is included in other long-term assets and totaled $2,020,000 and $2,907,000 at December 31, 2008 and 2007. During each of the years ended December 31, 2008, 2007 and 2006, interest expense, related to the 3.5% annual interest, of $5,250,000 was recorded to other non-operating expenses in the Consolidated Statements of Operations.

In November 2006 deCODE completed the sale of $80,000,000 principal amount of 3.5% Senior Convertible Notes due 2011 (the "2006 Notes") at a price of 70% of par pursuant to Rule 144A under the Securities Act of 1933. The 2006 Notes have substantially similar terms to the 2004 Notes. The 2006 Notes are convertible into shares of deCODE common stock, at the option of the holder, at a price of $14.00 per share, which is equivalent to an initial conversion rate of approximately 71.4286 shares per $1,000 principal amount of the Notes. deCODE may redeem the 2006 Notes beginning April 20, 2009. Interest is payable semi-annually on April 15 and October 15. From the 2006 Notes

offering, deCODE received gross proceeds of $56,000,000. The 30% ($24,000,000) discount on the 2006 Notes was recorded as a reduction to the debt recorded and deCODE will accrete this discount, over the life of the 2006 Notes (through April 15, 2011), to interest expense up to the full principal amount of $80,000,000. During the years ended December 31, 2008, 2007 and 2006, deCODE recognized interest expense related to the accretion of the discount of $5,029,000, $4,662,000 and $264,000, respectively, in the Consolidated Statements of Operations, with a remaining discount to be accreted of $14,045,000 at December 31, 2008. deCODE recorded deferred offering costs of $3,053,000 which are being amortized to interest expense over the life of the 2006 Notes. During the years ended December 31, 2008, 2007 and 2006, interest expense related to deferred cost amortization of $647,000, $588,000 and $34,000, respectively, was recorded to other non-operating expenses in the Consolidated Statements of Operations with a remaining balance of $1,806,000 and $2,453,000 at December 31, 2008 and 2007, respectively. During the years ended December 31, 2008, 2007 and 2006, interest expense, related to the 3.5% annual interest, of $2,800,000, $2,800,000 and $583,000, respectively, was recorded to other non-operating expenses in the Consolidated Statements of Operations.

The existence of the substantial discount on the 2006 Notes causes one of the features, a put option by the holder upon a change of control of deCODE, to be accounted for separately as an embedded derivative. deCODE has assessed the probability of a change in control at December 31, 2008 and 2007 to be remote and accordingly, the value assigned to the derivative is immaterial.

The fair value of the 3.5% convertible notes at December 31, 2008 and 2007 was approximately $25,744,000 and $153,768,000, respectively. The fair value of the convertible notes was based on the quoted market prices at December 31, 2008 and 2007.

***Mortgage Loan***

deCODE had a mortgage loan with a financial institution for its Woodridge, IL facility with a balance of $5,611,000 at December 31, 2006. The mortgage carried an interest rate of three-month LIBOR + 2.25% (7.62% at December 31, 2006), payable in monthly installments of $26,000 plus interest for two years with a final payment of $4,990,000 originally due in December 2008. During 2007, in conjunction with the sale and leaseback of the Woodridge facility (see Note 14) this loan was repaid.

***Equipment Notes***

The equipment notes consist of various loans for equipment, range in principal amount from $288,000 to $601,000 and are collateralized by the related equipment. The notes are generally payable over a term of 4 years, mature at various dates through May 2010, and have interest rates ranging from 10.27% to 10.95%.

The fair values of equipment notes at December 31, 2008 and 2007 were approximately $334,000 and $565,000, respectively, as estimated based on quoted market rates for instruments with similar terms and remaining maturities.

***Short Term Borrowings***

In July 2008, 2007 and 2006, deCODE entered into one-year agreements to finance its Directors and Officers insurance premium in the amounts of $441,000, $561,000 and $600,000, respectively. The amounts are payable monthly with interest at 3.42%, 5.99% and 6.25% for the 2008, 2007 and 2006 agreements, respectively. At December 31, 2008, 2007 and 2006, $242,000, $310,000 and $331,000 was

due under these agreements, respectively, and is included in accrued expenses and other current liabilities in the accompanying consolidated balance sheet.

**13. Fair Value Measurement**

On September 6, 2006, Statement of Financial Standard No. 157 *Fair Value Measurement*, ("SFAS 157"), was issued. This Standard defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, or GAAP, and expands disclosures about fair value measurements. This standard is effective January 1, 2008 for deCODE. In February 2008, the FASB issued FASB Statement of Position, ("FSP") No. 157-2, *Partial Deferral of the Effective Date of Statement 157*, ("FSP No. 157-2"), which delays the effective date of SFAS No. 157 for all non-financial assets and non-financial liabilities, except those that are recognized or disclosed at fair value in the financials statements on a recurring basis (at least annually) to fiscal years beginning after November 15, 2008. deCODE adopted SFAS 157 as of January 1, 2008, with the exception of the application of the statement to nonfinancial assets and nonfinancial liabilities. The adoption of FAS 157 did not have a material impact on deCODE's consolidated financial statements. deCODE is evaluating the impact on the non-financial assets and liabilities.

**Valuation Hierarchy.** SFAS 157 establishes a valuation hierarchy for disclosure of the inputs to valuation used to measure fair value. This hierarchy prioritizes the inputs into three broad levels as follows. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on assumptions used to measure assets and liabilities at fair value. A financial asset or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The following table provides the assets and liabilities carried at fair value measured on a recurring basis at December 31, 2008:

| | | Fair Value Measurements at December 31, 2008 Using: | | |
|---|---|---|---|---|
| | Total Carrying Value at December 31, 2008 | Quoted prices in active markets (Level 1) | Significant other observable inputs (Level 2) | Significant unobservable inputs (Level 3) |
| | | (In thousands) | | |
| Auction rate securities (investments non-current) . . . . . | $12,721 | — | — | $12,721 |

(tabular amounts in thousands, except share and per share amounts)

The following table presents deCODE's assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) at December 31, 2008:

| | Auction Rate Securities |
|---|---|
| | Year Ended December 31, 2008 |
| Balance at beginning of period | $ 24,833 |
| Transfers to Level 3 | — |
| Total gains (losses): | |
| Included in earnings | (13,026) |
| Included in other comprehensive income | 914 |
| Purchase and settlements (net) | — |
| Balance at December 31, 2008 | $ 12,721 |

**Valuation Techniques.** deCODE's investments in auction rate securities at December 31, 2008 did not have quoted market prices and are classified within Level 3 of the valuation hierarchy. The valuation models used to value the ARS include those that are based on expected cash flow streams and collateral values, including assessments of counterparty credit quality, default risk underlying the security, discount rates and overall capital market liquidity. The valuation of deCODE's investments in ARS is subject to uncertainties that are difficult to predict. Factors that may impact the valuation include changes in credit ratings of the securities or their guarantors, underlying collateral value, discounts rates, counterparty risk and ongoing strength and quality of market credit and liquidity.

Effective January 1, 2008, deCODE adopted, on a prospective basis, Statement of Financial Accounting Standards No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities* ("SFAS 159"). SFAS 159 permits entities to choose to measure many financial instruments and certain other items at fair value. The objective of the guidance is to improve financial reporting by providing entities with the opportunity to mitigate volatility in reported earnings caused by measuring related assets and liabilities differently without having to apply complex hedge accounting provisions. deCODE has not elected the fair value option for any financial instruments and therefore the adoption of SFAS 159 did not have a material impact on deCODE's consolidated financial statements.

## 14. Sale-Leaseback Financings

***Woodridge***

In June 2007, deCODE completed a sale and leaseback of its property (land and building) in Woodridge, Illinois. Pursuant to the agreement, deCODE sold the Woodridge property for $25,000,000 in cash and leased the property back under a 17 year lease at an initial rent of $163,000 per month, subject to annual rent increases of 2.5%. Under the lease, deCODE has two 5-year renewal options with rent at the then prevailing market rate. The lease is an absolute net lease and deCODE will continue to pay all expenses relating to the property, including taxes, utilities, insurance and maintenance. deCODE's obligations under the lease are collateralized by a letter of credit in an initial amount of $5,000,000, that may be reduced upon certain conditions. The letter of credit is collateralized by cash equivalents held in a restricted account ($5,500,000) at December 31, 2008.

The sale and leaseback of the Woodridge property is being accounted for as a financing, as such, the property remains on the balance sheet and continues to be depreciated through the lease term. Proceeds on the sale have been recorded on the balance sheet as a finance obligation and a portion of the rental payments under the lease will be applied, using the effective interest method, to reduce the finance obligation over the term of the lease, with the remainder of the rental payments being recorded as interest expense. Transaction costs amounting to $1,183,000 have been deferred and included in other long term assets on the condensed consolidated balance sheets and will be amortized to interest expense over the term of the lease, using the effective interest method.

Concurrent with the sale and leaseback of Woodridge, deCODE paid the existing mortgage loan ($5,430,000) which had been collateralized by the Woodridge property (see Note 12).

***Equipment***

In September 2007, deCODE entered into a financing for the sale and leaseback of equipment. The sale price of the equipment was $2,110,000 and the resulting gain of $305,000 has been deferred and is being recognized over the 24-month term of the leaseback.

During 2006, deCODE entered into a financing for the sale and leaseback of laboratory equipment from Illumina for $4,071,000. The net sale price of the equipment was $4,325,000 and the resulting gain of $254,000 has been deferred and is being recognized in earnings over the 37 month term of the leaseback. Also, during 2006, deCODE sold certain laboratory equipment for $713,000 net cash proceeds and leased the equipment back. The resulting gain of $82,000 has been deferred and is being recognized in earnings over the 37 month term of the leaseback.

**15. Sale of Encode**

On July 1, 2008, deCODE sold its subsidiary Encode ehf ("Encode") located in Iceland to a related party (an employee) for a nominal amount (100,000 ISK or $1,000 at December 31, 2008), recognizing a loss on the sale of $102,000 during the year ended December 31, 2008. Management believes the sale price approximated the fair value of Encode. The sale of Encode included the remainder of existing contracts at the date of the sale, immaterial assets and all employees associated with Encode. For the years ended December 31, 2008, 2007 and 2006, Encode had revenues of $464,000, $680,000 and $448,000, respectively, and operating expenses of $1,562,000, $2,924,000 and $3,256,000, respectively.

**16. Commitments and Contingencies**

***Leases and Finance Obligation***

deCODE leases certain property, equipment and other assets under non-cancelable leases that expire at varying dates through 2024. In June 2007, deCODE sold and leased back its facility in Woodridge, Illinois. This sale and leaseback was accounted for as a financing due to continuing involvement in the form of a collateralized letter of credit.

At December 31, 2008, future minimum lease payments under all non-cancelable leases are as follows:

| | Operating Leases | Capital Leases | Finance Obligation |
|---|---|---|---|
| | | (in thousands) | |
| 2009 | $ 3,872 | $2,244 | $ 2,034 |
| 2010 | 3,739 | — | 2,085 |
| 2011 | 3,716 | — | 2,137 |
| 2012 | 3,716 | — | 2,191 |
| 2013 | 3,526 | — | 2,246 |
| Thereafter | 22,114 | — | 27,045 |
| Total minimum payments | $40,683 | 2,244 | 37,738 |
| Less amount representing interest | | 42 | 13,593 |
| Present value of future minimum payments | | 2,202 | 24,145 |
| Less: current portion | | 2,202 | 648 |
| Long-term portion | | $ — | $23,497 |

Total rent expense for operating leases was $3,307,000, $3,850,000 and $3,452,000 in the years ended December 31, 2008, 2007 and 2006 respectively. For the years ended December 31, 2008, 2007 and 2006 the amount reflects the amortization of the deferred gain on sale-leaseback of properties of $1,938,000 per year.

*Other Commitments*

Under the terms of certain technology licensing agreements, deCODE is obligated to make payments upon the achievement of established milestones leading to the discovery of defined products. These payments could total $5,000,000, with the timing of payments not determinable at the current time.

deCODE's obligations under the Woodridge sale-leaseback are collateralized by a letter of credit in an initial amount of $5,000,000, that may be reduced upon certain conditions. The letter of credit is collateralized by cash equivalents held in a restricted account ($5,500,000) at December 31, 2008).

In the event of a change in control, deCODE's Change in Control Benefits Plan (adopted November 2007) requires deCODE to make a lump sum payment to the CEO and reporting officers based on their most recent salary and bonus history. Also, the Plan requires other benefits to be paid, to include life, disability, accident and health insurance for these employees for a period of 24 to 36 months depending on employment. deCODE believes that the probability of these circumstances transpiring is remote, as such no charge has been recognized in its Statements of Operations. As of December 31, 2008, the potential minimum lump sum payment (salary and bonus amounts only) under these change in control provisions would have totaled approximately $6,081,000.

*Guarantees*

When as part of an acquisition deCODE acquires all of the stock or all of the assets and liabilities of a company, it assumes the liability for certain events or occurrences that took place prior to the date

of acquisition. The maximum potential amount of future payments it could be required to make for such obligations is undeterminable at this time. deCODE has no liabilities recorded for these future payments as of December 31, 2008.

***Indemnification***

deCODE enters into indemnification provisions under (i) its agreements with other companies in its ordinary course of business, typically with business partners, contractors, clinical sites and customers and (ii) its agreements with investors. Under these provisions deCODE generally indemnifies and holds harmless the indemnified party for losses suffered or incurred by the indemnified party as a result of deCODE's activities or, in some cases, as a result of the indemnified party's activities under the agreement. These indemnification provisions generally survive termination of the underlying agreement. In addition, in some cases, deCODE has agreed to reimburse employees for certain expenses and to provide salary continuation during short term disability. The maximum potential amount of future payments deCODE could be required to make under these indemnification provisions is unlimited. deCODE has not incurred material costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, the estimated fair value of these agreements is minimal. Accordingly, deCODE has no liabilities recorded for these agreements as of December 31, 2008.

**17. Litigation**

Other than claims and legal proceedings that arise form time to time in the ordinary course of business which are not material, deCODE has no pending legal proceedings except as follows:

On or about April 20, 2002, an amended class action complaint, captioned *In re deCODE genetics, Inc. Initial Public Offering Securities Litigation* (01 Civ. 11219(SAS)), alleging violations of federal securities laws in connection with deCODE's initial public offering was filed in the United States District Court for the Southern District of New York (the "District Court") on behalf of certain purchasers of deCODE common stock. The complaint names deCODE, two individuals who were executive officers of deCODE at the time of its initial public offering (the "Individual Defendants"), and the two lead underwriters (the "Underwriter Defendants") for our initial public offering in July 2000 (the "IPO") as defendants. deCODE is aware that similar allegations have been made in hundreds of other lawsuits filed (many by some of the same plaintiff law firms) against numerous underwriter defendants and issuer companies (and certain of their current and former officers) in connection with various public offerings conducted in recent years. All of the lawsuits that have been filed in the Southern District of New York have been consolidated for pretrial purposes before United States District Judge Shira Scheindlin. Pursuant to the underwriting agreement executed in connection with our IPO, deCODE has demanded indemnification from the Underwriter Defendants. The Underwriter Defendants have asserted that our request for indemnification is premature.

Pursuant to an agreement the Individual Defendants have been dismissed from the case without prejudice.

On July 31, 2003, our Board of Directors (other than our Chairman and Chief Executive Officer, who recused himself because he was an Individual Defendant) approved a proposed partial settlement with the plaintiffs in this matter, subject to a number of conditions, including the participation of a substantial number of other issuer defendants in the proposed settlement, the consent of deCODE's insurers to the settlement, and the completion of acceptable final settlement documentation. A settlement fairness hearing was held on April 24, 2006. On June 25, 2007, the United States District

Court for the Southern District of New York entered an order formally denying the motion for final approval of the settlement agreement because the settlement class could not be certified. On August 14, 2007, the plaintiffs filed their second consolidated amended class action complaints against the "focus cases" and on September 27, 2007, again moved for class certification. The focus cases are a small group of cases that were selected as test cases due to the large number of nearly identical actions which were consolidated in the Initial Public Offering litigation. The court has indicated that the focus cases are intended to provide strong guidance for the other cases. The case involving deCODE is not a focus case. On November 12, 2007, certain of the defendants in the focus case moved to dismiss the second consolidated amended class action complaints. On March 26, 2008, the District Court denied the motions to dismiss except as to Section 11 claims raised by those plaintiffs who sold their securities for a price in excess of the initial offering price and those who purchased outside the previously certified class period. Briefing on the class certification motion was completed in May 2008. That motion was withdrawn without prejudice on October 10, 2008. On February 25, 2009, liaison counsel for the plaintiffs informed the district court that a settlement has been agreed to in principle, subject to formal approval by the parties, and preliminary and final approval by the court.

Due to the inherent uncertainties of litigation, deCODE cannot accurately predict the ultimate outcome of this matter. While deCODE's expenses in this matter to date have been paid primarily by its insurers, if deCODE were required to pay significant monetary damages as a result of an adverse determination in this matter (or any other lawsuits alleging similar claims filed against deCODE and deCODE's directors and officers in the future), deCODE's business could be significantly harmed. Even if such litigation concludes in deCODE's favor, deCODE may be required to expend significant funds to defend against the allegations. deCODE is unable to estimate the range of possible loss from this litigation and no amounts have been provided for it in deCODE's financial statements.

## 18. Stockholders' Deficit

***Common Stock***

In May 2007, deCODE increased its number of authorized common shares to 150,000,000, $0.001 par value common stock. Holders of shares of common stock are entitled to one vote at all meetings of stockholders for each share held by them. The common stock has no preemptive rights or other rights to subscribe for additional shares, no conversion right and no right of redemption. Subject to the rights and preferences of the holders of any preferred stock, the holders of the common stock are entitled to receive such dividends as, when and if declared by the Board of Directors out of funds legally available for that purpose.

Notes receivable provided in connection with the purchase of common stock are collateralized only by the shares to which they relate, are payable after a fixed period of generally four years and bear a fixed interest rate of generally six percent per annum. Several of the notes that have become due have been extended a further six years without additional interest. The loan becomes payable upon termination of employment and/or when the shares are sold.

In December 2005, deCODE filed a universal shelf registration statement on Form S-3 with the Securities and Exchange Commission ("SEC") for the issuance and sale from time to time of debt and equity securities either individually or in units, in one or more offerings, with a total value of up to $100 million. In July 2006 deCODE completed the sale of 6,000,000 shares of common stock at a purchase price of $5.00 per share, for aggregate net proceeds, after costs of the transaction, of $27,724,000.

(tabular amounts in thousands, except share and per share amounts)

*Preferred Stock*

At December 31, 2008, deCODE had 6,716,666 shares of undesignated preferred stock authorized and no shares issued or outstanding. In respect of the undesignated shares of preferred stock, deCODE's Board of Directors is authorized, except as otherwise limited by Delaware law, without further action by the stockholders to:

- issue shares of preferred stock in one or more series;
- fix or alter the dividend rights, dividend rates, conversion rights, voting rights, terms of redemption (including sinking fund provisions), redemption price or prices, and liquidation preferences of any wholly unissued series of preferred stock;
- designate the number of shares constituting, and the designation of, any series of preferred stock; and
- increase or decrease the number of shares of a series subsequent to the issue of shares of that series, but not below the number of shares of that series then outstanding.

*Warrants*

Upon the closing of deCODE's public offering in July 2000, warrants to purchase 1,075,833 shares of Series A preferred stock and warrants and options to purchase 416,667 shares of Series C preferred stock automatically converted into warrants and options to purchase the same number of shares of common stock.

In May 2002, deCODE issued warrants to purchase 933,800 shares of common stock at an exercise price of $15.00 per share in conjunction with the issuance of debt. These warrants expired unexercised in the year ended December 31, 2007.

In February 2004, deCODE issued a warrant to purchase 1,724,257 shares of common stock at $29.00 per share over five years to Merck in connection with a Stock and Warrant Purchase Agreement. The warrant is exercisable at Merck's option as to 344,851 shares for a period of 30 days commencing on the first, second, third, fourth and fifth anniversaries of the Warrant Agreement. Any portion of this warrant that is not exercised during an applicable exercise period shall expire and be of no further force or effect. As of December 31, 2008, warrants to purchase 344,851 shares of common stock remained outstanding (none exercisable at December 31, 2008).

Warrant activity is summarized as follows:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| Outstanding at beginning of year | 856,371 | 2,385,022 | 2,729,873 |
| Issued | — | — | — |
| Exercised | (55,555) | (250,000) | — |
| Cancelled | (344,851) | (1,278,651) | (344,851) |
| Outstanding at end of year | 455,965 | 856,371 | 2,385,022 |

(tabular amounts in thousands, except share and per share amounts)

A summary of the exercisable deCODE warrants as of December 31, 2008, is as follows:

| Common Shares Issuable for | Exercise Price Per Share | Warrant Expiration Date |
|---|---|---|
| 55,556 | 3.00 | May 20, 2009 |
| 55,556 | 4.00 | February 10, 2010 |
| 111,112 | | |

*Equity Incentive Plans*

In May 2006, deCODE adopted the deCODE genetics, Inc. 2006 Equity Incentive Plan (the "2006 Plan"). The 2006 Plan provides for the issuance of up to 4,000,000 shares of common stock to employees, consultants and non-employee directors in the form of incentive stock options, nonqualified stock options, restricted stock and stock appreciation rights (SARs). In May 2008, deCODE amended its 2006 Plan to increase the number of shares of common stock that may be subject to awards to 10,000,000 shares. deCODE also maintains the deCODE genetics, Inc. 1996 and 2002 Equity Incentive Plans (together with the 2006 Plan, the "Plans") that provide for the grant for awards to employees, members of the Board of Directors, consultants and other advisors who are not employees. The 1996 Equity Incentive Plan expired in July 2006. A total of 10,000,000 shares were originally reserved for grants of options and restricted stock under the terms of the 1996 and 2002 Equity Incentive Plans.

The equity incentive Plans are administered by the Compensation Committee of the Board of Directors. The Compensation Committee determines the type and term of each award, the award exercise or purchase price, if applicable, the number of shares underlying each award granted and the rate at which each award becomes vested or exercisable. Incentive stock options may be granted only to employees of deCODE at an exercise price per share of not less than the fair market value per share of common stock on the day before the grant and with a term not to exceed ten years from date of grant. Nonqualified stock options may be granted to any officer, employee, director, consultant or advisor at a per share exercise price in such amount as the Compensation Committee may determine. Generally each employee option grant vests twenty-five percent on the first anniversary date of an employee's commencement of employment and 1/48th of the original grant each month thereafter for the following three years. Upon exercise of options, shares are issued from the pool of registered shares under the Plans.

The Compensation Committee may also grant restricted stock and other stock-based awards on such terms and conditions as it may determine, which may include deCODE's right to repurchase the unvested underlying stock upon termination of the holder's employment.

Options granted to date generally vest over a period of four years, generally have a maximum term of 10 years, and may contain early-exercise provisions allowing for company-provided financing of the exercise price. In November 2007, deCODE adopted a Change in Control Benefits Plan that provides for, among other things, upon a change in control, all outstanding stock options, restricted stock and stock appreciation rights, and any similar awards under any equity compensation plan of deCODE, shall vest, become immediately exercisable or payable and have all restrictions lifted.

As of December 31, 2008, 6,154,945 shares were available for grant under the Plans.

A summary of stock option activity is presented in the following table:

| | Number of Shares | Weighted Average Exercise Price | Weighted Average Remaining Contractual Term | Aggregate Intrinsic Value |
|---|---|---|---|---|
| | | | (In years) | (In thousands) |
| Outstanding at December 31, 2007 | 7,773,559 | $6.19 | | |
| Granted | 1,148,000 | 2.73 | | |
| Exercised | (2,500) | 2.11 | | |
| Cancelled | (465,704) | 5.52 | | |
| Outstanding at December 31, 2008 | 8,453,355 | $5.76 | 6.66 | $ — |
| Vested and expected to vest at December 31, 2008 | 8,177,638 | $5.83 | 6.57 | $ — |
| Exercisable at December 31, 2008 | 5,720,364 | $6.78 | 5.83 | $ — |

The aggregate intrinsic value of options outstanding and options exercisable represents the total pre-tax intrinsic value, based on deCODE's closing stock price of $0.19 as of December 31, 2008 (the last trading day for the year ended December 31, 2008), which would have been received by the option holders had all option holders exercised their options as of that date. The total number of in-the-money options exercisable as of December 31, 2008 was 0.

The aggregate intrinsic value of options exercised under the Plans determined as of the date of option exercise was $3,000, $128,000 and $528,000 during the years ended December 31, 2008, 2007 and 2006, respectively. The weighted average grant date fair value of options granted during the years ended December 31, 2008, 2007 and 2006 was $2.55, $3.46 and $4.34, per share, respectively. Cash received from option exercises for the years ended December 31, 2008 and 2007 and 2006 was $5,000, $147,000 and $870,000, respectively.

The following table summarizes information about stock options outstanding and exercisable at December 31, 2008:

| | Options Outstanding | | | Options Exercisable | |
|---|---|---|---|---|---|
| Exercise Price | Number of Shares | Weighted Average Exercise Price | Weighted Average Remaining Contractual Life | Number of Shares | Weighted Average Exercise Price |
| | | | (In years) | | |
| $0.69 to $3.38 | 1,654,946 | $ 2.82 | 8.58 | 734,554 | $ 2.87 |
| $3.45 to $3.45 | 2,282,671 | 3.45 | 8.11 | 1,002,700 | 3.45 |
| $3.46 to $8.06 | 1,840,554 | 6.13 | 6.14 | 1,408,484 | 6.58 |
| $8.13 to $8.96 | 1,811,133 | 8.78 | 4.36 | 1,811,133 | 8.78 |
| $9.21 to $24.56 | 864,051 | 10.39 | 5.04 | 763,493 | 10.53 |
| $0.69 to $24.56 | 8,453,355 | $ 5.76 | 6.66 | 5,720,364 | $ 6.78 |

***Stock-based Compensation***

Effective January 1, 2006 deCODE adopted SFAS 123R using the modified prospective transition method, which requires the measurement and recognition of compensation expense for all stock-based

payment awards made to deCODE's employees and directors. Stock-based compensation expense recognized is based on the value of the portion of stock-based payment awards that is ultimately expected to vest. Stock-based compensation expense recognized in deCODE's Consolidated Statement of Operations during the year ended December 31, 2008, 2007 and 2006 included compensation expense for stock-based payment awards granted prior to, but not yet vested as of December 31, 2005, based on the grant date fair value estimated in accordance with the pro forma provisions of SFAS 123, and compensation expense for the stock-based payment awards granted subsequent to December 31, 2005 based on the grant date fair value estimated in accordance with the provisions of SFAS 123R. In conjunction with the adoption of SFAS 123R, deCODE elected to attribute the value of stock-based compensation to expense using the straight-line method, which was previously used for its pro forma information required under SFAS 123.

deCODE recorded stock-based compensation expense, net of estimated forfeitures, which were allocated based on the functional cost center of each employee as follows:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| | (In thousands, except per share amounts) | | |
| Operating Expenses: | | | |
| Cost of revenue | $ 561 | $ 799 | $ 612 |
| Research and development | 1,134 | 1,830 | 1,670 |
| Selling, general and administrative | 1,962 | 3,920 | 2,232 |
| Total stock-based compensation expense | $3,657 | $6,549 | $4,514 |
| Per basic and diluted share | $ 0.06 | $ 0.11 | $ 0.08 |

As stock-based compensation expense recognized is based on awards ultimately expected to vest, the compensation expense recognized for all share-based awards is net of estimated forfeitures. deCODE estimates forfeiture rates based on historical analysis of option forfeitures. If actual forfeitures should vary from estimated forfeitures, adjustments to stock-based compensation expense may be required in future periods.

As of December 31, 2008, there was $5,753,000 of total unrecognized compensation expense, net of estimated forfeitures, related to non-vested stock awards. This unrecognized compensation expense is expected to be recognized over a weighted average period of 2.2 years.

The employee stock-based compensation recognized under SFAS 123R was determined using the Black Scholes option valuation model. Option valuation models require the input of subjective assumptions and these assumptions can vary over time. The weighted average assumptions used are as follows.

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| Expected dividend yield | 0% | 0% | 0% |
| Expected volatility | 63.7% | 64.3% | 65.9% |
| Expected option life (in years) | 5.4 | 5.5 | 5.1 |
| Risk-free interest rate | 2.8% | 4.4% | 4.7% |

(tabular amounts in thousands, except share and per share amounts)

deCODE estimates the expected term of the options based on historical patterns by employees with respect to exercise and post vesting employment termination behaviors. Expected volatility is based on deCODE's historical volatility and is calculated using a weighted average of the volatility over a period equal to the expected term of the award and the most recent one year volatility. deCODE bases the risk-free interest rate used on the implied yield currently available on the U.S. Treasury zero-coupon issues with an equivalent term. As deCODE does not pay dividends, the dividend rate variable in the Black-Sholes model is zero.

***Restricted Stock***

deCODE's Equity Incentive Plans allow for the issuance of restricted stock awards that may not be sold or otherwise transferred until certain restrictions have lapsed. The stock-based compensation expense for these awards is determined based on the market price of deCODE's stock at the date of the grant applied to the total numbers of shares that are anticipated to fully vest and then amortized over the period the restrictions lapse.

In 2008, 2007 and 2006, deCODE granted 79,457, 16,184 and 7,588 shares, respectively to its Audit Committee members. These grants remain subject to the right of deCODE to repurchase the shares in certain circumstances through a period of one-year from grant date. In 2005, deCODE granted 50,000 shares to an executive officer which fully vested in July 2008. The following table represents restricted stock activity:

| | Number of Shares | Weighted Average Grant Date Fair Value |
|---|---|---|
| Unvested restricted shares outstanding, December 31, 2007 | 54,046 | $8.96 |
| Restricted shares issued | 79,457 | 0.81 |
| Restricted shares vested | (110,251) | 4.79 |
| Restricted shares forfeited | (6,779) | 1.18 |
| Unvested restricted shares outstanding, December 31, 2008 | 16,473 | $0.73 |

The weighted average remaining contractual term for restricted stock awards was 0.25 years at December 31, 2008.

**19. Defined Contribution Benefits**

deCODE contributes to relevant pension organizations for personnel in Iceland in accordance with Icelandic law and employment practices. Certain other discretionary contributions may be made. Contributions are based on employee salaries paid and deCODE has no further liability in connection with these plans. Total contributions were $1,771,000, $2,686,000 and $2,231,000 for the years ended December 31, 2008, 2007 and 2006, respectively.

deCODE maintains 401(k) pension plans available to eligible full-time employees in the United States. deCODE made contributions of $218,000, $317,000 and $319,000 for the years ended December 31, 2008, 2007 and 2006, respectively, to these plans.

## 20. Income Taxes

Deferred income taxes include the net effects of temporary differences between the carrying amounts for assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

deCODE's deferred tax assets (liabilities) are comprised of the following:

| | December 31, | |
|---|---|---|
| | 2008 | 2007 |
| | (In thousands) | |
| Loss carryforwards | $ 71,980 | $ 95,845 |
| Capitalized research and development costs | 16,727 | 23,667 |
| Deferred revenue | 40 | 1,167 |
| Fixed asset depreciation | (779) | 261 |
| Intangible assets/patents | (51) | (78) |
| Other deferred tax assets | 9,745 | 3,466 |
| Total deferred tax asset, net | 97,662 | 124,328 |
| Valuation allowance | (97,662) | (124,328) |
| | $ — | $ — |

The table below reconciles the expected U.S. federal income tax rate to the recorded income tax rate:

| | For the Years Ended December 31, | | |
|---|---|---|---|
| | 2008 | 2007 | 2006 |
| Income taxes (benefit) at federal statutory rates | (34.0)% | (34.0)% | (34.0)% |
| State income taxes, net of federal benefit | (2.4) | (1.0) | (0.9) |
| Non-deductible equity compensation | 1.2 | 2.4 | 0.5 |
| Foreign rate differential | 10.3 | 12.4 | 13.4 |
| Foreign currency adjustment | 35.8 | (7.7) | (0.8) |
| Tax rate reduction on prior valuation allowances | 18.7 | — | — |
| Other | 3.2 | (0.1) | (0.3) |
| Net change in valuation allowance | (32.8) | 28.0 | 22.1 |
| | 0.0% | 0.0% | 0.0% |

Pre-tax U.S. losses were $37,138,000, $21,400,000 and $13,653,000 and pre-tax Icelandic losses were $43,809,000, $74,125,000 and $71,820,000 in 2008, 2007 and 2006, respectively. As of December 31, 2007, deCODE had U.S. federal net operating loss ("NOL") carryforwards of approximately $55,094,000 that may be available to offset future U.S. federal income tax liabilities and expire at various dates through 2027. As of December 31, 2008, deCODE's Icelandic subsidiaries had NOL carryforwards of approximately $302,868,000 and expire at various dates through 2018. Management has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets and has established a full valuation allowance for such assets, which are comprised principally of net operating loss carryforwards and capitalized research and experimentation costs.

Approximately $655,000 of the net operating loss carryforwards relate to the exercise of non-qualified stock options and disqualifying dispositions of incentive stock options, the tax benefit from which, if realized, will be credited to additional paid in capital.

Ownership changes, as defined in the Internal Revenue Code, may have limited the amount of net operating loss carryforwards that can be utilized annually to offset future taxable income. Subsequent ownership changes could further affect the limitation in future years.

***Adoption of FASB Interpretation No. 48***

Effective January 1, 2007, deCODE adopted FIN 48. FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with SFAS 109. FIN 48 also prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of each tax position taken or expected to be taken in a tax return.

Since the IRS has the ability to adjust the amount of a net operating loss utilized on a tax return, all tax years are open until the deCODE begins utilizing its net operating losses. In Iceland, the statute of limitations is six years and as such the Icelandic taxing authorities can reassess the tax back to 2003. In addition, open tax years related to states remain subject to examination but are not considered material.

deCODE does not expect its unrecognized tax benefits to change significantly over the next 12 months. The statute of limitations for federal, state, and Iceland tax purposes are generally three, four, and six years respectively; however, deCODE continues to carryover tax attributes prior to these periods for federal and state purposes, which would still be open for examination by the respective tax authorities. All years since deCODE's inception are open to tax examinations.

**21. Other non-operating income and (expense), net**

During 2008 and 2007, deCODE recognized an other-than-temporary-loss on investments in auction rate securities ("ARS") (see Note 7). Although the ARS continue to pay interest according to their stated terms, based on valuation models and an analysis of other-than-temporary impairment factors, deCODE recorded an impairment charge of $13,026,000 ($914,000 of which had previously been recognized as temporary and had been accounted for as an unrealized loss at December 31, 2007) and $7,752,000, respectively.

In June 2007, deCODE entered into a legal settlement to end ongoing litigation regarding certain proprietary and confidential information. Financial terms of the legal settlement stipulated that deCODE would be paid $9,000,000, which was received by deCODE during the year ended December 31, 2007. deCODE recognized $9,000,000 of the settlement amount during the year ended December 31, 2007, net of related expenses of $785,000.

**22. Subsequent Event**

In January 2009, deCODE entered into an agreement with NBI hf., an Icelandic financial institution, pursuant to which NBI has purchased all auction rate securities ("ARS") owned by deCODE for an aggregate price of ISK 1,375,000,000, which represented approximately $11,000,000 at the then current currency exchange rates. NBI has the put option to require deCODE to repurchase the ARS upon the earlier of (a) the sale of all or a majority of the stock of deCODE genetics ehf,

deCODE's Icelandic subsidiary, ("IE") or a specified part of the operations of IE or (b) December 16, 2009. deCODE has the call option to require NBI to sell the ARS to it at any time until January 1, 2010. The repurchase price on exercise of the put or call option (the "Repurchase Price") will be equal to the Purchase Price plus interest from January 16, 2009 at a rate of five percent (5%) above the Reykjavik Interbank Offered Rate in effect on the date payment is made less the aggregate amount of interest and principal received by NBI on the ARS. In addition, if the aggregate amount of interest and principal received by NBI with respect to the ARS is higher than the Repurchase Price, upon deCODE's repurchase of the ARS pursuant to the exercise of the put or call option, NBI will be required to deliver to deCODE, in addition to the ARS, an amount equal to (A) the aggregate amount of principal and interest that it received less (B) the sum of (i) the Repurchase Price and (ii) ISK 375,000,000 (approximately $3,350,000 at current exchange rates). Due to the put and call options, the transaction will be accounted for as a secured borrowing and as such, the ARS will remain on deCODE's Consolidated Balance Sheet and continue to be marked unless the put option as described above is not exercised prior to December 16, 2009.

## 23. Selected Quarterly Data (Unaudited)

| | For the Three Months Ended | | | |
|---|---|---|---|---|
| | March 31, | June 30, | September 30, | December 31, |
| | (In thousands, except per share amounts) | | | |
| **2008** | | | | |
| Revenue | $14,978 | $15,026 | $11,978 | $16,113 |
| Operating loss | 19,600 | 13,516 | 11,327 | 9,023 |
| Net loss | 26,665 | 18,354 | 17,900 | 18,028 |
| Basic and diluted net loss per share | (0.44) | (0.30) | (0.29) | (0.29) |
| **2007** | | | | |
| Revenue | $ 8,554 | $ 7,614 | $10,892 | $13,343 |
| Operating loss | 20,570 | 22,865 | 22,223 | 21,921 |
| Net loss | 22,625 | 16,228 | 24,248 | 32,425 |
| Basic and diluted net loss per share | (0.37) | (0.27) | (0.40) | (0.53) |

**Item 9.** ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

Not applicable.

**Item 9A.** ***Controls and Procedures***

(a) *Evaluation of disclosure controls and procedures.* Our Chief Executive Officer and our Chief Financial Officer evaluated the effectiveness of deCODE's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the fiscal year covered by this Annual Report on Form 10-K. Based upon that evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that as of the end of such fiscal year deCODE's disclosure controls and procedures are adequate and effective to ensure that information required to be disclosed in the reports deCODE files under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Act is accumulated and communicated to the issuer's management including its principal executive and principal financial officers or persons performing similar functions as appropriate to allow timely decisions regarding required disclosures.

In designing and evaluating our disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance that the desired objectives of the control system will be met. In addition, the design of any control system is based in part upon certain assumptions about the likelihood of future events and the application of judgment in evaluating the cost-benefit relationship of possible controls and procedures. Because of these and other inherent limitations of control systems, there is only reasonable assurance that our controls will succeed in achieving their goals under all potential future conditions.

(b) *Changes in Internal Controls.* We are continuously seeking to improve the efficiency and effectiveness of our internal controls. This results in periodic refinements to internal control processes throughout the Company. However, there was no significant change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) during the last fiscal quarter of the year ended December 31, 2008 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

**Management's Report on Internal Control Over Financial Reporting**

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended. The Company's internal control system was designed to provide reasonable assurance to the Company's management and board of directors regarding the preparation and fair presentation of published financial statements for external reporting purposes in accordance with accounting principles generally accepted in the United States of America.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Company's management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2008. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control—Integrated Framework*. Based on its assessment management believes that, as of December 31, 2008, the Company's internal control over financial reporting is effective based on those criteria.

The Company's independent registered public accounting firm, Deloitte & Touche LLP, which audited the financial statements contained in this Annual Report on Form 10-K, has issued an attestation report on the Company's internal control over financial reporting as of December 31, 2008. This report, which expresses an unqualified opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2008, is included below under the heading "Report of Independent Registered Public Accounting Firm."

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
deCODE Genetics, Inc.
Reykjavik, Iceland

We have audited the internal control over financial reporting of deCODE Genetics, Inc. and subsidiaries (the "Company") as of December 31, 2008, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008, based on the criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements as of and for the year ended December 31, 2008 of the Company and our report dated March 31, 2009 expressed an unqualified opinion on those financial statements and included an explanatory paragraph concerning substantial doubt about the Company's ability to continue as a going concern.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
March 31, 2009

**Item 9B.** ***Other Information***

Not applicable

## PART III

**Item 10.** ***Directors, Executive Officers and Corporate Governance***

For information concerning this item, see the information under "Election of Directors," "Executive Officers Who are Not Directors," "Code of Ethics" and "Section 16(a) Beneficial Ownership Reporting Compliance" in our Proxy Statement to be filed with respect to our 2009 Annual Meeting of Stockholders, which information is incorporated herein by reference.

**Item 11.** ***Executive Compensation***

For information concerning this item, see the information under "Executive Compensation" in our Proxy Statement to be filed with respect to our 2009 Annual Meeting of Stockholders, which information is incorporated herein by reference.

**Item 12.** ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

For information concerning this item, see the information under "Security Ownership of Certain Beneficial Owners and Management" in our Proxy Statement to be filed with respect to our 2009 Annual Meeting of Stockholders, which information is incorporated herein by reference.

**Item 13.** ***Certain Relationships and Related Transactions, and Director Independence***

For information concerning this item, see the information under "Certain Relationships" and "Election of Directors" in our Proxy Statement to be filed with respect to our 2009 Annual Meeting of Stockholders, which information is incorporated herein by reference.

**Item 14.** ***Principal Accountant Fees and Services***

For information concerning this item, see the information under "Ratification of the Appointment of our Independent Registered Public Accounting Firm" in our Proxy Statement to be filed with respect to our 2009 Annual Meeting of Stockholders, which information is incorporated herein by reference.

## PART IV

**Item 15.** ***Exhibits, Financial Statement Schedules***

***(a) The following documents are included as part of this Annual Report on Form 10-K:***

*1. Financial Statements:*

2. All schedules are omitted as the information required is inapplicable or the information is presented in the consolidated financial statements or the related notes.

3. Exhibits

The exhibits required to be filed are listed on the "Exhibit Index" attached hereto, which is incorporated herein by reference.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

deCODE genetics, Inc.

By: /s/ KARI STEFANSSON
Kari Stefansson,
*Chairman, President and Chief Executive Officer*

Dated: March 31, 2009

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

| Name | Title | Date |
|---|---|---|
| /s/ KARI STEFANSSON<br>Kari Stefansson | Chairman, President, Chief Executive Officer and Director (principal executive officer) | March 31, 2009 |
| /s/ LANCE THIBAULT<br>Lance Thibault | Chief Financial Officer and Treasurer (principal financial officer and principal accounting officer) | March 31, 2009 |
| /s/ J. NEAL ARMSTRONG<br>J. Neal Armstrong | Director | March 31, 2009 |
| /s/ JAMES BEERY<br>James Beery | Director | March 31, 2009 |
| /s/ EARL M. COLLIER, JR.<br>Earl M. Collier, Jr. | Director | March 31, 2009 |
| /s/ PETER GOODFELLOW<br>Peter Goodfellow | Director | March 31, 2009 |

## EXHIBIT INDEX

| Exhibit Number | Description |
|---|---|
| 3.1 | Amended and Restated Certificate of Incorporation, as further amended (Incorporated by reference to Exhibit 3.1 and Exhibit 3.3 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |
| 3.2 | Bylaws, as amended (Incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |
| 3.3 | Certificate of Amendment to Amended and Restated Certificate of Incorporation dated August 30, 2002 (Incorporated by reference to Exhibit 3.2 to the Company's Quarterly Report on Form 10-Q filed on November 14, 2002). |
| 3.4 | Certificate of Amendment to Amended and Restated Certificate of Incorporation dated May 11, 2007 (Incorporated by reference to Exhibit 3.3 to the Company's Quarterly Report on Form 10-Q filed on August 9, 2007). |
| 4.1 | Specimen Common Stock Certificate (Incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |
| 4.2 | Form of Warrant to Purchase Series C Preferred Stock (Incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |
| 4.3 | Warrant, dated February 25, 2004, issued to Merck & Co., Inc. (Incorporated by reference to Exhibit 4.7 to the Company's Annual Report on Form 10-K filed on March 15, 2004). |
| 4.4 | Indenture dated as of April 14, 2004 between deCODE genetics, Inc. and The Bank of New York (including form of 3.5% Senior Convertible Note due 2011) (Incorporated by reference to Exhibit 4.2 to the Company's Registration Statement on Form S-3 (Registration No. 333-116543) which was filed on June 16, 2004). |
| 4.5 | Registration Rights Agreement dated as of April 14, 2004 between deCODE genetics, Inc., J.P. Morgan Securities Inc. and Lehman Brothers Inc., as representatives of the Initial Purchasers (Incorporated by reference to Exhibit 4.9 to the Company's Quarterly Report on Form 10-Q filed on May 10, 2004). |
| 4.6 | Indenture dated as of November 17, 2006 between deCODE genetics, Inc. and The Bank of New York (including form of 3.5% Senior Convertible Note due 2011) (Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 20, 2006). |
| 4.7 | Registration Rights Agreement dated as of November 17, 2006 between deCODE genetics, Inc. and Lehman Brothers, Inc. as Representative of the Initial Purchasers (Incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on November 20, 2006). |
| 10.1 | Form of License from The Icelandic Data Protection Commission (now, The Icelandic Data Protection Authority) to Islensk erfdagreining ehf. and its Clinical Collaborators to Use and Access Patient Records and Other Clinical Data Relating to Individuals (Incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |

| Exhibit Number | Description |
|---|---|
| 10.2* | 1996 Equity Incentive Plan, as amended (Incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-8 (Registration No. 333-56996) filed on March 14, 2001). |
| 10.3* | Form of Non-Statutory Stock Option Agreement, as executed by employees and officers of deCODE genetics, Inc. who received non-statutory stock options (Incorporated by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K filed April 15, 2003). |
| 10.4* | Form of Employee Proprietary Information and Inventions Agreement (Incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |
| 10.5 | Co-operation Agreement between Reykjavik Hospital and Islensk erfdagreining ehf., dated November 4, 1998 (Incorporated by reference to Exhibit 10.22 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |
| 10.6 | Co-operation Agreement between the Iceland State Hospital and Islensk erfdagreining ehf., dated December 15, 1998 (Incorporated by reference to Exhibit 10.24 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |
| 10.7* | Form of Employee Confidentiality, Invention Assignment and Non-Compete Agreement executed by certain officers (Incorporated by reference to Exhibit 10.44 to the Company's Registration Statement on Form S-1 (Registration No. 333-31984) which became effective on July 17, 2000). |
| 10.8 | Purchase Agreement between Vetrargardurinn ehf. and Festing ehf. dated March 29, 2005 (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q filed on May 10, 2005). |
| 10.9 | Lease Agreement between Vetrargardurinn ehf. and Festing ehf. dated March 29, 2005 (Incorporated by reference to Exhibit 10.2 to the Company's Report on Form 10-Q filed on May 10, 2005). |
| 10.10* | Employment Agreement between deCODE genetics, Inc. and Daniel L. Hartman, effective as of July 15, 2005 (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q filed on November 9, 2005). |
| 10.11* | Form of Restricted Stock Agreement (Incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed on August 1, 2005). |
| 10.12* | 2002 Equity Incentive Plan (Incorporated by reference to Exhibit 10.40 to the Company's Annual Report on Form 10-K filed on April 15, 2003). |
| 10.13+ | License Agreement, dated as of October 17, 2003, between deCODE genetics, ehf. and Bayer AG (Incorporated by reference to Exhibit 10.32 to the Company's Annual Report on Form 10-K filed on March 15, 2004). |
| 10.14+ | License and Research Collaboration Agreement, dated February 25, 2004, between deCODE genetics, ehf. and Merck & Co., Inc. (Incorporated by reference to Exhibit 10.14 to the Company's Annual Report on Form 10-K filed on March 15, 2007). |
| 10.15* | Agreement between deCODE genetics, Inc. and J. Neal Armstrong dated as of August 18, 2003 and effective as of October 3, 2003 (Incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on November 13, 2003) |

| Exhibit Number | Description |
|---|---|
| 10.16* | 2006 Equity Incentive Plan (Incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed on May 11, 2006). |
| 10.17 | Placement Agency Agreement by and among the Company, Lehman Brothers Inc. and Thomas Weisel Partners LLC dated as of July 13, 2006 (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 14, 2006). |
| 10.19* | Employment Agreement between deCODE genetics, Inc. and Jakob Sigurdsson, dated as of October 25, 2006 (Incorporated by reference to Exhibit 10.19 to the Company's Annual Report on Form 10-K filed on March 15, 2007). |
| 10.20 | Purchase Agreement dated November 14, 2006 between deCODE genetics, Inc. and Lehman Brothers, Inc., as Representative of the Initial Purchasers (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 15, 2006). |
| 10.21 | Agreement of Purchase and Sale between deCODE Chemistry, Inc and Woodridge Holdings LLC, dated as of February 5, 2007 (Incorporated by reference to Exhibit 10.21 to the Company's Annual Report on Form 10-K filed on March 15, 2007). |
| 10.22* | Form of Incentive Stock Option Agreement under 2006 Equity Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on August 9, 2007). |
| 10.23* | Form of Non-Qualified Stock Option Agreement under 2006 Equity Incentive Plan (Incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on August 9, 2007). |
| 10.24* | Form of Restricted Stock Agreement under 2006 Equity Incentive Plan (Incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on August 9, 2007). |
| 10.25 | Lease dated June 8, 2007 between deCODE Chemistry, Inc. and Woodridge Holdings, LLC and Big T Investments, LLC (Incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed on August 9, 2007). |
| 10.26 | Guaranty of deCODE genetics, Inc. and MediChem Life Sciences, Inc. dated June 8, 2007 (Incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed on August 9, 2007). |
| 10.27 | Letter of Credit Reimbursement, Security and Pledge Agreement dated June 8, 2007 among Custodial Trust Company, deCODE Chemistry, Inc. and deCODE genetics, Inc. (Incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed on August 9, 2007). |
| 10.28 | deCODE genetics, Inc. Change in Control Benefits Plan (Incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed on November 8, 2007). |
| 21.1 | Subsidiaries of deCODE genetics, Inc. |
| 23.1 | Consent of Deloitte & Touche LLP, independent registered public accounting firm. |
| 31.1 | Certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |

| Exhibit Number | Description |
|---|---|
| 31.2 | Certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 32 | Certifications pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |

+ Confidential treatment has been requested for certain portions of this exhibit. The omitted portions have been separately filed with the Commission.

* Constitutes a management contract or compensatory plan or arrangement.

Note: Unless otherwise noted, the SEC File number of each of the above referenced documents is 000-30469.

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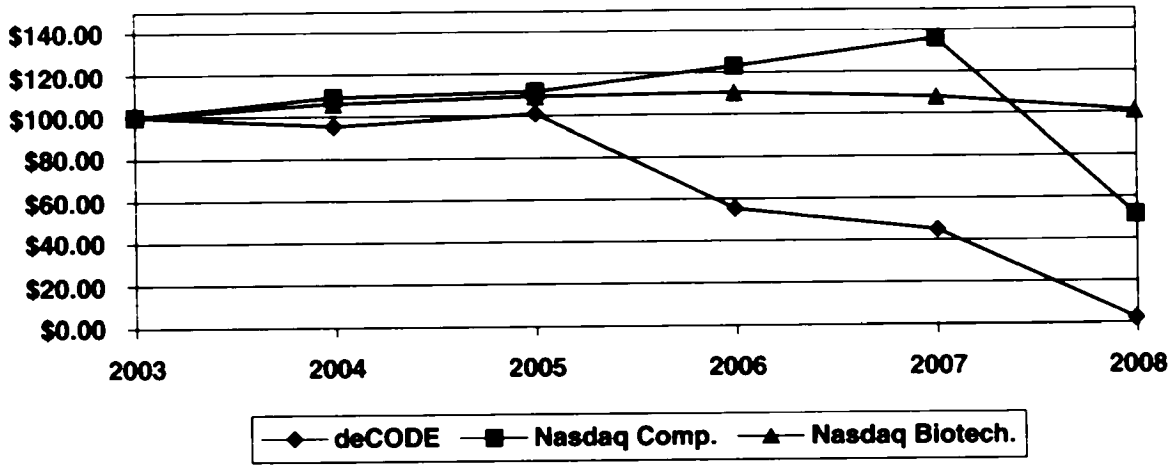
**Relative Stock Performance**

Set forth below is a line graph comparing the percentage change in the cumulative total stockholder return on our common stock to the cumulative total return of the Nasdaq Composite Index and the Nasdaq Biotechnology Index for the period commencing December 31, 2003 and ended December 31, 2008.




The graph assumes $100 was invested on December 31, 2003 in our common stock and each of the indices, and that dividends were reinvested. No cash dividends have been declared on our common stock as of December 31, 2008. The comparisons in the graph are required by the Securities and Exchange Commission and are not intended to forecast or be indicative of possible future performance of our common stock.

**Board of Directors**

Kári Stefánsson
Chairman,
CEO and President
deCODE genetics, Inc.

J. Neal Armstrong
Vice President,
Chief Financial Officer
and Secretary
Aspect Medical Systems

James Beery
Senior Counsel
Covington & Burling

Earl M. Collier, Jr.
Executive Vice President
Genzyme Corporation

Peter Goodfellow
Scientific Advisor
Abingworth
Managment, Ltd.

**Officers**

Kári Stefánsson
President and Chief
Executive Officer

Lance Thibault
Chief Financial Officer
and Treasurer

Jeffrey Gulcher
Chief Scientific Officer

Mark Gurney
Senior Vice President
Drug Discovery and
Development

Daniel L. Hartman
Senior Vice President
Product Development

Jakob Sigurdsson
Senior Vice President
Corporate Development

Axel Nielsen
Chief Operating Officer

**Corporate Headquarters**

Sturlugata 8
IS-101 Reyjavik
ICELAND
Tel +354 570 1900
Fax +354 570 1903

**Transfer Agent and Registrar**

BNY Mellon Shareholder Services
480 Washington Boulevard
Jersey City, NJ 07310
Tel 1-800-524-4458

**Form 10-K and Annual Reports**

Copies of the Annual Report on Form 10-K, as filed with the Securities and Exchange Commission, are available at no charge by calling +354 570 1900 or by writing to:
*deCODE genetics, Inc.*
*Sturlugata 8*
*IS-101 Reykjavik*
*Iceland*

www.decode.com


Sturlugata 8
IS-101 Reykjavik
Iceland
Tel + 354 570 1900
Fax + 354 570 1903
**www.decode.com**

**Contacts**
General inquiries: info@ decode.com
Investor relations: ir@ decode.com
Business development: bd@ decode.is