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

FORM 20-F

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

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

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2009

OR

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

OR

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

DATE OF EVENT REQUIRING THIS SHELL COMPANY REPORT _____

COMMISSION FILE NO. 005-60609

_____

Compugen Ltd.

(Exact name of registrant as specified in its charter and translation of registrant's name into English)

_____

Israel

(Jurisdiction of incorporation or organization)

72 Pinchas Rosen Street, Tel Aviv, 69512 Israel

(Address of principal executive offices)

_____

Dikla Czaczkes Axselbrad, Chief Financial Officer

Phone: 972-3-765-8585, Fax: 972-3-765-8555

72 Pinchas Rosen Street, Tel Aviv, 69512 Israel

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

_____

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

Ordinary Shares, par value New Israeli Shekels 0.01 per share

(Class of Securities)

NASDAQ

Capital Market

(Name of Exchange)

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

32,867,912 Ordinary Shares

Indicate by check mark if the registrant is a well known seasoned issuer, as defined in Rule 405 of the Securities Act.

☐ Yes ☒ No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

☐ 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 whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

☐ Not applicable

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

Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☐

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP ☒

International Financial Reporting Standards as issued by the International Accounting Standards Board ☐
Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

☐ Yes ☒ No

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This annual report on Form 20-F includes "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. These statements include words such as "may", "expect", "anticipate" "could", "project", "estimate", "believe", and "intend", and describe opinions about future events. We have based these forward-looking statements on information available to us on the date hereof, and on our current intentions, beliefs, expectations and projections about future events. We assume no obligation to update any such forward-looking statements. These forward-looking statements involve known and unknown risks and uncertainties that may cause the actual results, performance or achievements of Compugen to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Factors that could cause our actual results to differ materially from those projected in the forward-looking statements include, without limitation, the risk factors set forth under "Item 3. Key Information. Risk Factors", the information about us set forth under "Item 4. Information about the Company", and information related to our financial condition under "Item 5. Operating and Financial Review and Prospects."

Compugen Ltd. is referred to in this annual report as "Compugen", "we", "our", "our company", "the Company" or "us".

We have prepared our consolidated financial statements in United States dollars and in accordance with accounting principles generally accepted in the United States. All references herein to "dollars" or "$" are to United States dollars, and all references to "Shekels" or "NIS" are to New Israeli Shekels.

PART I.

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

The following selected consolidated financial data for and as of the five years ended December 31, 2009, are derived from our audited consolidated financial statements which have been prepared in accordance with U.S. GAAP. The selected consolidated financial data as of December 31, 2009 and 2008 and for the years ended December 31, 2009, 2008 and 2007 have been derived from our audited consolidated financial statements and notes thereto included elsewhere in this annual report. The selected consolidated financial data as of December 31, 2007, 2006 and 2005 and for the years ended December 31, 2006 and 2005 have been derived from audited consolidated financial statements not included in this annual report. The selected consolidated financial data set forth below should be read in conjunction with and are qualified by reference to Item 5. "Operating and Financial Review and Prospects" and our consolidated financial statements and notes thereto included elsewhere in this annual report.

Selected Financial Data

	Year ended December 31,				
	2005	**2006**	**2007**	**2008**	**2009**
	($ in thousands, except share and per share data)				
Consolidated Statement of Operations Data					
Revenues	$ 646	$ 215	$ 180	$ 338	$ 250
Total operating expenses [(1)]	14,229	13,213	12,640	13,243	7,879
Operating loss	(13,731)	(13,004)	(12,460)	(12,912)	(7,629)
Financial and other income, net	900	955	1,002	401	3,786
Net loss from continuing operations	(12,831)	(12,049)	(11,490)	(12,511)	(3,843)
Net gain (loss) from discontinued operations	(1,147)	(971)	(624)	(16)	12
Net loss available to ordinary shares	(13,978)	(13,020)	(12,114)	(12,527)	(3,831)
Basic and diluted net loss per ordinary share from continuing operations	$ (0.46)	$ (0.44)	$ (0.41)	$ (0.44)	$ (0.13)
Basic and diluted net loss per ordinary share	$ (0.50)	$ (0.47)	$ (0.43)	$ (0.44)	$ (0.13)
Weighted average number of ordinary shares used in computing basic and diluted net loss per share	27,774,535	27,985,957	28,266,273	28,434,946	28,608,317

	Year ended December 31,				
	2005	2006	2007	2008	2009
	($ in thousands, except share and per share data)				
Consolidated Balance Sheet Data					
Cash and cash equivalents, short-term deposits, marketable securities, restricted cash[2] and receivables on account of shares[3]	$ 31,054	$ 25,102	$ 15,200	$ 7,481	$ 23,590
Investment in Evogene	-	-	510	3,858	3,898
Long-term deposits and marketable securities	4,983	1,000	2,080	-	-
Total assets	42,106	30,856	21,666	14,244	30,185
Accumulated deficit	(119,734)	(132,754)	(144,926)	(157,453)	(161,284)
Total shareholders' equity	$ 36,248	$ 25,738	$ 17,285	$ 10,003	$ 27,398

(1) Includes stock based compensation – see Note 12 of our 2009 consolidated financial statements.

(2) The amounts set forth for 2005 and 2006 have been reclassified.

(3) Includes proceeds of "at the market" sales of ordinary shares.

For additional financial information, please see "Item 5. Operating and Financial Review and Prospects - Results of Operations".

Risk Factors

Many factors could affect our financial condition, cash flows and results of operations. We are subject to various risks resulting from changing economic, political, social, industry, business and financial conditions. If we do not successfully address the risks to which we are subject, we could experience a material adverse effect on our business, results of operations and financial condition, which could include the need to limit or even discontinue our business operations and our share price may decline. We can give no assurance that we will successfully address any of these risks. The principal risks are described below.

Factors Related to our Financial Results and Financing Needs

We cannot provide assurance that our business model will succeed in generating substantial revenues.

Our business model is primarily based on receiving revenues in the form of fees and research revenues, milestones and royalties, and other revenue sharing payments from the commercialization of drug and diagnostic products by third parties based on product candidates (i) discovered by us and then licensed to such third parties, and/or (ii) made pursuant to various forms of collaborations with such third parties whereby our discovery platforms or other discovery capabilities are targeted to areas of their interest ("discovery on demand" collaborations). To date, revenues related to our initial platforms and product candidates have been minimal, totaling $180,000, $40,000 and $250,000 in 2007, 2008 and 2009 respectively. We cannot be certain this business model will generate a stable or significant revenue stream. The inability to derive adequate revenues from our business model would significantly impede improvement in our operating results and liquidity or even result in the need to limit or even discontinue our business operations.

We have a history of losses, we expect to incur future losses and we may never achieve or sustain profitability.

As of December 31, 2009, we had an accumulated deficit of approximately $161 million and had incurred net losses of approximately $12 million in 2007, approximately $13 million in 2008 and approximately $4 million in 2009. The accumulated deficit results in large part from our primary focus from 1997 to 2004 on research and infrastructure building activities and then, beginning in late 2004 to the present, on the creation and validation of field specific discovery platforms designed to identify novel drug and diagnostic product candidates. Prior to 2005, the costs of such research and discovery

activities were partially offset by limited revenues obtained by providing certain of our computational biology capabilities to third parties in the form of services and software products. In 2005, our business model shifted from providing capabilities to licensing product candidates, either individually or pursuant to "discovery on demand" collaborations. To date, we have received only minimal current revenues from our initial licensing efforts and we may continue to incur net losses in the future due to the costs and expenses associated with our research and discovery activities, including both product candidate discovery and validation and the creation of additional discovery platforms. We cannot be certain that we will ever achieve profitability, and even if we do achieve profitability, we may not be able to sustain or increase profitability.

We may be required to allocate substantial additional funds in the future to our discovery and validation activities, and we may never be able to achieve profitability.

Our research efforts primarily consist of developing and validating discovery platforms on a field by field basis, and then utilizing these platforms on our own or pursuant to collaborations with others to discover product candidate molecules that appear to have potential therapeutic and/or diagnostic applications. In 2009, as in previous years, we allocated a substantial portion of our cash and other resources to such development, validation and discovery activities and we intend to continue to do so. To date, these activities have generated only negligible revenues. These activities may never generate significant revenues and we may never achieve profitability.

We may need to raise additional funds in the future. If we do and are unable to raise such needed additional funds, we may need to curtail or cease operations, and if we do raise additional funds, to the extent such funding is based on the sale of equity, our existing shareholders are likely to experience dilution of their shareholdings.

As of December 31, 2009, we had total cash and cash equivalents, short-term deposits, marketable securities, and receivables on account of shares of approximately $23.4 million, compared with approximately $7.2 million as of December 31, 2008, in both cases, not including the market value of the Evogene ordinary shares that we hold. We do not anticipate that we will achieve profitability in the near future and may need additional funds to continue financing our discovery, validation, development and commercialization activities.

We cannot provide any assurance that additional funding, if needed, will be available on terms that are favorable to us, if at all. Our ability to obtain additional funding will be subject to a number of factors, including market conditions, our operating performance and investor sentiment. If we raise additional funds by issuing equity securities or any other convertible securities, we expect that our shareholders will experience dilution of their shareholdings, If we are unable to obtain additional financing on commercially reasonable terms, we may have to curtail or cease our discovery and validation activities, or restrict or cease operations.

If we are unable to continue to receive research and development grants, our financial results may be negatively impacted and we may need to restrict certain research activities.

We have received research and development grants from the Office of the Chief Scientist of the Israeli Ministry of Industry, Trade and Labor, from the Israel-U.S. Binational Industrial Research and Development Foundation and from the European Community, under the European Union's 6th Framework Program. In 2009, the grants we received or may receive totaled approximately $944,000, compared with approximately $544,000 in 2008 and approximately $1.4 million in 2007. Our entitlement to receive these grants is dependent on, among other things, our compliance with the various grants' respective terms and conditions. In addition, the Office of the Chief Scientist may reduce or eliminate these benefits in the future. Our contingent liability to repay these grants out of future revenues totaled approximately $6.6 million at December 31, 2009.

If we do not comply with the terms and conditions of the grants or if we do not succeed in obtaining these or similar grants in the future, we may have to restrict certain research activities.

The current world-wide economic slowdown and its impact on capital, which may continue or intensify, could adversely affect our results of operations, cash flows and financial condition and may affect our ability to access certain sources of funding.

The global economy is undergoing a period of substantial instability. This has led, and could further lead, to reduced consumer spending in the foreseeable future, which may include reduced spending on healthcare and materially impact the earnings and financial health of our collaborators and potential collaborators. As a consequence, our current collaborators and other prospective collaborators may postpone, reduce or even forego research and development activities, including acquiring licenses for therapeutic and diagnostic product candidates, which could adversely affect our potential revenues and profitability. We cannot predict when these conditions will improve. In the past, we accessed the capital markets to

support our business activities. In the future, we may not be able to obtain capital market financing on favorable terms, or at all, which could have a material adverse effect on our ability to grow or even continue our business operations.

Factors Related to our Discovery and Development Activities and to the Commercialization of our Discoveries

Our predictive approach to discovering novel therapeutic and diagnostic product candidates is itself novel and has not yet been fully proven or validated in the form of marketed products and may never lead to marketed products. If this approach does not prove to be successful, our business will be significantly harmed.

Our method of discovering novel product candidates primarily involves first utilizing our computational biology capabilities and predictive models to either generate *in silico* (i.e. in computers) a large number of potential product candidates in the field of interest or to design specific molecules to serve a therapeutic or diagnostic need. Next we utilize proprietary algorithms and tools and other methodologies to select from these predicted product candidates, those novel molecules that we believe have the highest probability of being product candidates for the field of interest. Some or all of these selected molecules are then synthesized and undergo *in vitro* and/or *in vivo* validation testing. By using this approach, we have successfully validated the predictive capabilities of a number of discovery platforms. In addition, a number of product candidates in various diagnostic and therapeutic areas that were first predicted *in silico* have been validated in our labs or in disease model animal studies. However, all candidates we discover are at a very early stage and our approach in general has not yet been proven or validated beyond initial validation. Therefore, we cannot predict whether any of such discoveries will be suitable for development into therapeutic or diagnostic products or that our discovery method will continue to yield product candidates.

Our business will likely be harmed, if:

- we or our licensees and collaborators are not able to find any beneficial biological activity for the therapeutic and diagnostic product candidates that we discover, or
- potential licensees or collaborators do not believe that this is an effective discovery methodology, or
- our approach is ultimately proven to be ineffective or non-competitive for discovering candidates suitable for development into therapeutic and diagnostic products or
- we or our licensees and collaborators are not able to find any beneficial clinical value for the therapeutic and diagnostic product candidates that we discover, or
- we or our licensees or collaborators fail to commercialize our discoveries, or
- we fail to successfully negotiate satisfactory contractual terms in view of our unequal bargaining power compared to our potential collaborators.

The success of our business largely depends on our discovery platforms and related technologies. The predictive capabilities of our discovery platforms with respect to yielding marketable products, remain unproven and may never lead to marketable products. If we fail to continue to develop and enhance our discovery platforms, or we or our partners fail to make novel discoveries, or focus on the most promising discoveries, our business will likely be materially harmed.

Our proprietary discovery platforms are designed to predict, select and validate potential product candidates in each selected field of therapeutic and diagnostic interest. These discovery platforms rely on the modeling by our scientists of complex biological processes, both physiological and pathological. This modeling is partial and might not be sufficient to result in true predictions to the biological processes as they occur naturally. Even if we make true or partially true predictions, we might be able only to repeat discoveries already made by others and not be able to make novel discoveries. This may result either from feeding our discovery platforms with data already used by others or by developing discovery platforms already developed, wholly or partially by others, or from inherent incapacity of the prediction capabilities of our discovery platforms. In addition, since our research and discovery resources are limited we might be able to progress with only a fraction of our discoveries. We currently assess which discoveries to validate based on various criteria. If we or our partners fail to select the right candidates to progress with, due to either lack of experience or applying the wrong criteria, the selected candidates may never result in a marketable product. Additionally, we may not be able to make the necessary new developments and enhancements to our discovery platforms and related technologies in order to compete successfully within the pharmaceutical and biotechnology industries.

We rely on access to public and commercial databases to feed our discovery platforms, and if we are denied access to these databases for any reason or if the quality of available information is poor, or if the quantity of the available information is insufficient, our operations and business may be harmed.

In the development and validation of our discovery platforms and of the resulting therapeutic and diagnostic product candidates, we rely on our ability to access and use public and commercially available databases. The quality of our

platforms and discoveries is in part dependent on the quality and quantity of the data in these databases. If we are denied access to these databases, or if we are granted access to such databases on terms which are not commercially reasonable, or if the quality of data available from those databases is poor, or if the quantity of the available information is insufficient, our business and our results of operation may be materially harmed.

We rely on access to high-quality biological samples supported by detailed clinical records to conduct parts of our discovery activities and to perform experimental analysis and initial clinical validation. If we will fail to identify and purchase or otherwise obtain such samples for any reason, or if the quality of available biological samples is poor, or if the quantity of the available biological samples is insufficient, our discovery and validation capabilities may be harmed.

In carrying out our discovery and validation of therapeutic and diagnostic product candidates, we rely on our ability to access and use commercially available biological samples. The quality of our discoveries is in part dependent on the quality and quantity of available biological samples. If we will fail to identify and purchase or otherwise obtain such samples for any reason or if the quality of available biological samples is poor, or if the quantity of the available biological samples is insufficient, our discovery and validation capabilities may be harmed.

We rely on the services of various third party service providers, contract research organizations (CRO's) and academia for production of certain biological reagents and performance of certain in-vitro and/or animal model validation of our discoveries. If we will fail to identify and obtain quality services from such third parties, our discovery and validation capabilities may be harmed.

In carrying out our discovery and validation of therapeutic and diagnostic product candidates, we rely on the services of various third party service providers, CRO's and academia for production of certain biological reagents and performance of certain in-vitro or animal model validation of our discoveries. If we will fail to identify and obtain quality services from such third parties, or if the contractual demands of such third parties become unreasonable and we will not be able to reach satisfactory agreements with such third parties, we may not be able to obtain the required services, in which event our discovery and validation capabilities may be harmed.

There are risks that are inherent in the development and commercialization of therapeutic and diagnostic products, and if these risks materialize, our business and financial results may be materially harmed.

We face a number of risks of failure that are inherent in the process of developing and commercializing therapeutic and diagnostic products. These risks include, among other risks, the possibility that:

- our therapeutic product candidates will be found to be pharmacologically ineffective
- our therapeutic product candidates will be found to be toxic or to have other detrimental side effects;
- our diagnostic product candidates will prove to be ineffective in distinguishing between healthy and disease samples or in providing information relating to a patient's response to a drug;
- our collaborators will not complete the development or commercialize our product candidates for economic reasons, including competition with alternative product candidates;
- our collaborators will fail to design and implement appropriate clinical trials
- our collaborators will fail to receive applicable regulatory approvals;
- our collaborators will fail to manufacture our product candidates on a large scale in a cost effective manner;
- our collaborators will fail to develop and market products based on our discoveries prior to the successful marketing of competing products by others or prior to expiry of the patents protecting such products;
- the commercialization of our product candidates may infringe third party intellectual property rights;
- the development, marketing or sale of our product candidates will fail because of our inability or failure to protect or maintain our own intellectual property rights; and/or
- once a product is launched in the market, there will be little or no demand for it as a result of its exclusion from health funds' reimbursement schemes or as a result of there being alternative products available for sale.

If one or more of these risks or any similar risks materialize, our business and financial results may be materially harmed.

We have limited experience in the development of therapeutic and diagnostic product candidates, and if we fail to maintain and/or acquire the appropriate experience, our business may be materially harmed.

Our experience in the development of therapeutic and diagnostic product candidates is limited. In order to successfully develop and commercialize therapeutic and diagnostic product candidates, we must either access such expertise via collaborations or service providers or improve our internal expertise, capabilities and facilities. We may not be able to maintain and/or engage any or all of the experts that we need in order to do so.

If we fail to have available at the appropriate times all of the required experience and expertise in the development and commercialization of therapeutic and diagnostic product candidates, we may be unsuccessful in our discovery and development activities, and as a result our business may be materially harmed.

The biotechnology and pharmaceutical industries are highly competitive, and we may be unable to compete effectively.

The biotechnology and pharmaceutical industries are highly competitive. Numerous entities in the United States, Europe and elsewhere compete with our efforts to discover, validate and partner with licensees and/or collaborators to commercialize therapeutic and diagnostic products or product candidates. Our competitors include pharmaceutical, biotechnology and diagnostic companies, academic and research institutions and governmental and other publicly funded agencies. We face, and expect to continue to face, competition from these entities to the extent that they develop products that have a function similar or identical to the function of our therapeutic and diagnostic product candidates. We also face, and expect to continue to face, competition from entities that seek to develop technologies that enable the discovery of novel therapeutic and diagnostic product candidates.

Many of our competitors benefit from greater market recognition, and have substantially greater financial, technical, human, research and development, and marketing resources than we do. Since we are a small company with limited human resources, we are not able to work with a large number of collaborators in parallel. Our competitors may discover and develop product candidates or market and sell products based on their discoveries, in advance of us or of our collaborators or licensees. They may also obtain patents and other intellectual property rights before us and thereby prevent us from pursuing the development and commercialization of our discoveries. For information about the specific competitors with whom we compete, see "Competition" under "Item 4. Information on the Company."

If we are unable to compete successfully against existing or potential competitors, our financial results and business may be materially harmed.

The trend towards consolidation in the pharmaceutical, diagnostic and biotechnology industries may adversely affect us.

There is a trend towards consolidation in the pharmaceutical, diagnostic and biotechnology industries. This consolidation trend may result in the remaining companies having greater financial resources and discovery technological capabilities, thus intensifying competition in these industries. This trend may also result in fewer potential collaborators or licensees for our therapeutic and diagnostic product candidates. Also, if a consolidating company is already doing business with our competitors, we may lose existing licensees or collaborators as a result of such consolidation.

This trend may adversely affect our ability to enter into agreements for the development and commercialization of our product candidates, and as a result may harm our business.

We depend significantly on collaborators and licensees for the development and commercialization of our therapeutic and diagnostic product candidates, and if we are unable to maintain our existing agreements or to enter into additional agreements with collaborators and licensees in the future, our business will likely be materially harmed.

Our strategy for the development and commercialization of therapeutic and diagnostic product candidates depends on the formation of collaborations or licensing relationships with third parties that have complementary capabilities. We depend significantly on our collaborators and licensees to carry out and/or finance product development and commercialization of our therapeutic and diagnostic product candidates. Potential collaborators and licensees include pharmaceutical, biotechnology and diagnostic companies and other healthcare related organizations,

To date, we have granted a small number of licenses and entered into a limited number of collaborations covering discovery, development and commercialization rights with respect to certain of our product candidates and none of the

product candidates covered by such collaborations have, to date, advanced beyond the validation stage. We cannot assure you that any of these agreements will result in the successful development or commercialization of any products based on our discoveries. Further, we cannot assure you that we will succeed in identifying additional suitable collaborators or licensees or entering into any other additional agreements with collaborators or licensees for the discovery, development and commercialization of our therapeutic and diagnostic product candidates. If we are unable to identify additional suitable collaborators or licensees or enter into new collaborations or license agreements, our business will likely be materially harmed.

We may not be able to find collaborators or licensees that will agree to license our discoveries at an early stage, and if we do not find these collaborators or licensees, our business will likely be materially harmed.

Our strategy for the development and commercialization of therapeutic and diagnostic product candidates is based on our discovery and initial validation and in some cases, pre-clinical development of those product candidates. We consider initial validation of diagnostic product candidates to be a stage where we may demonstrate that the product candidate is differentially present in different physiological or disease conditions, but in any case with no clinical validation. We consider initial validation of a therapeutic product candidate to be a stage at which we show biological activity of that candidate in animal models. We consider initial validation of drug target candidates to be a stage at which we show differential expression in physiological or disease conditions. We either carry out such initial validation ourselves or we engage third parties to provide such validation and then we ordinarily seek to rely on our collaborators and licensees to carry out further product development.

Pharmaceutical and diagnostic companies may be reluctant or refuse to in-license our therapeutic and diagnostic product candidates at these early stages when there remains, based on industry experience, a high likelihood of failure. An additional barrier to our success in obtaining collaborators and licensees at such very early stage is the existence of skepticism in the industry about the value of *in silico* predictive modeling in life science discovery due to largely unsuccessful past attempts by others. Even if we are successful in commercializing our product candidates at an early stage of development, our licensees may propose terms that we may not consider commercially desirable and the consideration that we may receive for each individual product may be relatively low.

If we are unable to out-license our discoveries at an early stage, we may need to validate and develop our discoveries ourselves until the candidates attain a more mature stage of development. Such development activities may require us to expend substantial additional financial and other resources. If we are unable to raise or spend these additional resources, we may have to curtail or cease our discovery and development activities, and as a result our business will likely be materially harmed.

Our dependence on licensing and collaboration agreements with third parties presents a number of risks, and if one or more of these risks materialize, our business may be materially harmed.

The risks that we face in connection with our existing collaborations, licenses and other business alliances as well as those that we may enter into the future include, among other things, the following:

- we may be unable to comply or fully comply with our obligations under license or collaboration agreements into which we enter, and as a result, we may not generate royalties or milestone payments from such agreements, and our ability to enter into additional agreements may be harmed;
- our collaborators have significant discretion in electing whether to pursue any of the planned activities and the manner in which it will be done;
- we may not be able to control our collaborators' or licensees' willingness to pursue development of our product candidates, or the amount of resources that our collaborators will devote to the collaboration;
- changes in a collaborator's or a licensee's business strategy may negatively affect its willingness or ability to complete its obligations under its arrangement with us;
- ownership of the intellectual property generated under our collaborations may be disputed;
- our ownership of rights in any intellectual property or products that may result from our collaborations may depend on additional investment of money that we may not be able nor willing to make;
- prospective collaborators may pursue alternative products or technologies, by internally developing them or by preferring those of our competitors;
- disagreements between us and our collaborators may lead to delays in, or termination of, the collaboration; and
- our collaborators may fail to develop or commercialize successfully any products based on product candidates to which they have obtained rights from us.

If any of these risks materialize, our business, financial condition and results of operations may be materially harmed.

The licensing cycle for our commercial offerings is complex and lengthy and as a result, we may expend substantial funds and management resources with no assurance of success.

We are required to negotiate agreements containing terms unique to each licensee and collaborator and which suit each licensee's or collaborator's specific discovery, development and business strategies. The accommodation of these requirements mandates a thorough consideration of both the scientific and business aspects of each transaction. The diversity and wide applicability of our discovery capabilities in therapeutics and diagnostics together with the fact that we are located in Israel, adds a high level of complexity to our business development efforts. As a result, the process of preparing and negotiating our licensing and other agreements may take 12 months or longer, and even then may end in failure to reach a final agreement. These business development and related commercial activities require the input and substantial time and efforts of our key scientific and management personnel.

As a result we believe that we will need to continue to expend substantial funds and substantial management time and effort into these business development activities with no assurance of successfully entering into agreements with potential collaborators and licensees.

Factors Related to our Operations Generally

We may be unable to hire or retain key personnel or sufficiently qualified employees, in which case our business may be harmed.

Our business is highly dependent upon the continued services of our senior management and key scientific and technical personnel. While members of our senior management and other key personnel have entered into employment or consulting agreements and non-competition and non-disclosure agreements, we cannot assure you that these key personnel and others will not leave us or compete with us, which could harm our business activities and operations. It is difficult to find suitable and highly qualified personnel in certain aspects of our industry.

As a result of a restructuring that was completed in early 2009 to refocus efforts and reduce cash burn, completed in early 2009, the Company's headcount was reduced from 57 as of December 31, 2008 to 37 as of December 31, 2009. While these reductions impacted our capacity in certain areas, we believe that these headcount reductions have not and will not impact any of the Company's discovery capabilities or its ability to develop new platforms. However, we cannot be certain of this and such reductions (as well as potential future reductions) may have a material adverse effect on our employee retention ability.

Our business may be harmed if we are unable to retain our key personnel, or to attract, integrate or retain other highly qualified personnel in the future.

Revenues that we may generate from commercialization of our technologies or discoveries may be reduced because of obligations to pay back Israeli governmental grants or other grants that we receive, and related restrictions may be imposed with respect to products developed with the help of such grants.

The development of some of our technologies and of the discoveries that we make have been and may, in the future, be partially funded by governmental grants that we received or may receive from the Israel-U.S. Bi-national Industrial Research and Development Foundation and the Office of the Chief Scientist of the Israeli Ministry of Industry, Trade and Labor. According to Israeli law, certain restrictions and obligations may be imposed on us in relation to the development and commercialization of discoveries that are financed by these grants. These obligations and restrictions may be imposed if we were to seek to manufacture the technologies or the discoveries outside of Israel or to transfer certain of our know-how within or outside of Israel. Therefore, our flexibility in commercializing some of our technologies or discoveries may be reduced.

We may be unable to safeguard the integrity, security and confidentiality of our data or third parties' data, and if we are unable to do so, our business may be harmed.

We rely heavily on the use and manipulation of large amounts of data and on the secure and continuous use of our internal computers, communication networks and software and hardware systems. We have implemented and maintain physical and software security measures to preserve and protect our computers, communication, and hardware and software systems as well as our data and third parties' data. However, these methods may not protect us against fire, storm, flood, power loss, earthquakes, telecommunications failures, physical or software break-ins or similar events. In addition, these

measures may not be sufficient to prevent unauthorized access, use or publication of such proprietary data. A party who is able to circumvent our security measures could misappropriate or destroy proprietary information or cause interruptions in our operations. A party who has access to our proprietary data could misappropriate such data, make unauthorized use of or unintentionally destroy all or part of such proprietary data. In addition, a party, including an employee, who obtains unauthorized access to our proprietary data or breaches a confidentiality agreement with us could publish or transfer large portions or all of our proprietary data. Such publication of proprietary data could materially harm our intellectual property position, thereby seriously harming our competitive position. Such security breaches, if significant, could harm our operations and even cause our business to cease.

We may be subject to claims related to hazardous chemicals and biological materials that we use, and these claims may harm our business.

Our research and development activities in some cases may involve the controlled use of biological and chemical materials, a small amount of which could be hazardous. We cannot eliminate the risk of accidental contamination or discharge of any of these materials. If hazardous biological or chemical materials in our possession were to be improperly used, that could result in harm to persons or property and we could be subject to both civil damages and criminal penalties. In such event, our liability may exceed our insurance coverage.

Factors Related to Intellectual Property

We may not be able to protect our non-patented proprietary data, technologies or discoveries, and that may materially harm our business.

We rely heavily on our proprietary know-how and trade secrets that we develop and that are not protectable or protected by patents. The protective measures that we employ may not provide adequate protection for our trade secrets and know-how. Our business collaborators, licensees, employees, advisers and consultants may disclose our proprietary know-how or trade secrets in violation of their obligations to us. We may not be able to meaningfully protect our rights in our proprietary know-how or trade secrets against such unauthorized disclosure and any consequent unauthorized publication.

If we are not able to adequately protect our proprietary know-how and trade secrets, competitors may be able to develop technologies and resulting discoveries and inventions that are the same or similar to our own discoveries and inventions. That could erode our competitive advantage and materially harm our business.

We may not be able to obtain or maintain patent protection for our inventions and if we fail to do so, our business will likely be materially harmed.

The success of our business depends, to a large extent, on our ability to obtain and maintain patents that cover our therapeutic and diagnostic product candidates. We have applied for patents covering our therapeutic and diagnostic product candidates as well as aspects of some of our technologies. We have a total of 18 issued patents, of which 16 are U.S. patents. We also have 88 pending patent applications which include 33 patent applications that have been filed in the United States (six of which have, to date, been allowed for issuance) and eight applications that have been filed under the Patent Cooperation Treaty for which we have not yet designated the countries of filing. We plan to continue to apply for patent protection for our therapeutic and diagnostic inventions, including for related inventions such as antibodies and peptides, but we cannot assure you that any of our patent applications will be accepted, or that they will be accepted to the extent that we seek.

The process of obtaining patents for inventions that cover our products is uncertain for a number of reasons, including but not limited to:

- the patenting of our inventions involves complex legal issues, many of which have not yet been settled;
- legislative and judicial changes, or changes in the examination guidelines of governmental patent offices may negatively affect our ability to obtain molecule-based patents;
- in view of the finite number of human genes, we face intense competition from other biotechnology and pharmaceutical companies who have already sought patent protection relating to gene-based discoveries that we may intend to develop and commercialize;
- publication of large amounts of genomic data by non-commercial and commercial entities may hinder our ability to obtain sufficiently broad patent claims for our inventions;
- even if we succeed in obtaining patent protection, such protection may not be sufficient to prevent third parties from using our patented inventions;

- even if we succeed in obtaining patent protection, our patents could be partially or wholly invalidated, including by our competitors; and
- the significant costs that may need to be incurred in registering and filing patents.

If we do not succeed in obtaining patent protection for our inventions to the fullest extent for which we seek protection, our business and financial results will likely be materially harmed.

The existence of third party intellectual property rights may prevent us from developing our discoveries or require us to expend financial and other resources to be able to continue to do so.

In selecting a therapeutic or diagnostic product candidate for development, we take into account, among other considerations, the existence of third party intellectual property rights that may hinder our right to develop and commercialize that product candidate. The human genomic pool is finite. To our knowledge, third parties, including our competitors, have been filing wide patent applications covering an increasing portion of the human genomic pool and the proteins and peptides expressed therefrom.

As a result of the existence of such third party intellectual property rights, we have been and may be required further to:

- forgo the research, development and commercialization of therapeutic and diagnostic products candidates that we discover, notwithstanding their promising scientific and commercial merits; or
- invest substantial management and financial resources to either challenge or in-license such third party intellectual property, and we cannot assure you that we will succeed in doing so on commercially reasonable terms, if at all.

We do not always have available to us, in a timely manner, information of the existence of third party intellectual property rights related to our own discoveries. The content of U.S. and other patent applications remain unavailable to the public for a period of approximately 18 months from their filing date. In some instances, the content of U.S. patent applications remain unavailable to the public until the patents are issued. As a result, we can never be certain that development projects that we commence will be free of third party intellectual property rights. If we become aware of the existence of third party intellectual property rights only after we have commenced a particular development project, we may have to forgo such project after having invested substantial resources in it.

We may infringe third party rights and may become involved in litigation, which may materially harm our business.

If a third party accuses us of infringing its intellectual property rights or if a third party commences litigation against us for the infringement of patent or other intellectual property rights, we may incur significant costs in defending such action, whether or not we ultimately prevail. Typically, patent litigation in the pharmaceutical and biotechnology industry is expensive and prolonged. Costs that we incur in defending third party infringement actions would also result in the diversion of management's and technical personnel's time, the effect of which may be even more adverse then in the past due to the recent reduction in the size of our workforce. In addition, parties making claims against us may be able to obtain injunctive or other equitable relief that could prevent us or our collaborators and licensees from further developing our discoveries or commercializing our products. In the event of a successful claim of infringement against us, we may be required to pay damages and obtain one or more licenses from the prevailing third party. If we are not able to obtain such a license at a reasonable cost, if at all, we could encounter delays in product introductions and loss of substantial resources while we attempt to develop alternative products. Defense of any lawsuit or failure to obtain any such license could prevent us or our partners from commercializing available products and could cause us to incur substantial expenditures.

Factors Related to our Ordinary Shares

Holders of our ordinary shares who are U.S. residents may be required to pay additional U.S. federal income taxes.

There is a significant risk that we may be classified as a passive foreign investment company, or PFIC. Our treatment as a PFIC could result in a reduction in the after-tax return to the U.S. holders of our ordinary shares and may cause a reduction in the value of our shares. For U.S. federal income tax purposes, we will generally be classified as a PFIC for any taxable year in which either: (i) 75% or more of our gross income is passive income or (ii) at least 50% of the average value of our assets for the taxable year produce or are held for the production of passive income. If we were determined to be a PFIC for U.S. federal income tax purposes, highly complex rules would apply to U.S. holders owning our ordinary shares and such U.S. holders could suffer adverse U.S. tax consequences.

We have a very limited operating history with respect to the commercialization aspects of our business model, upon which to base an investment decision or upon which to predict our revenues.

Beginning in 2005, our business model shifted from providing certain of our computational biology capabilities in the form of services and software packages, to licensing product candidates, either individually or pursuant to "discovery on demand" collaborations. Our ability to generate revenues from such licensing activities for current and future product candidate discoveries, primarily in the form of fees, milestones, research revenues and revenue sharing payments remains untested to date, we have received only minimal current revenues from our initial licensing efforts, having recognized $180,000 of such revenue in 2007, $40,000 of such revenue in 2008 and $250,000 of such revenue in 2009. Therefore, our operating history with respect to the commercialization aspects of our business model provides an extremely limited basis for you to assess our ability to generate significant fee, milestone, research revenue and revenue sharing payments from the licensing and commercialization of our product candidate discoveries, or from "discovery on demand" collaborations, and therefore on the advisability of investing in our securities.

Our share price and trading volume have been volatile and may be volatile in the future and that could limit investors' ability to sell stock at a profit and could limit our ability to successfully raise funds.

During the last two fiscal years, our stock price on Nasdaq has traded from a low of $0.34 to a high of $5.86 and trading volume has been very volatile, particularly in the last quarter of 2009. The volatile price of our stock and volatile trading volume may make it difficult for investors to predict the value of their investment, to sell shares at a profit at any given time, or to plan purchases and sales in advance. A variety of factors may affect the market price of our ordinary shares including:

- negative global macroeconomic developments
- our success (or lack thereof) in entering into collaboration agreements and achieving certain developmental milestones thereunder;
- our success or failure raising capital;
- achievement or denial of regulatory approvals by our competitors or us;
- announcements of technological innovations or new commercial products by our competitors;
- developments concerning proprietary rights, including patents;
- developments concerning our existing or new collaborations;
- regulatory developments in the United States, Israel and other countries;
- delay or failure by us or our partners in initiating, completing or analyzing pre-clinical or clinical trials or the unsatisfactory design or results of such trials;
- period to period fluctuations in our revenues and other results of operations;
- changes in financial estimates by securities analysts;
- our need and ability to raise additional funds;
- our inability to disclose the commercial terms of, or progress under, our collaborations;
- our ability (or lack thereof) to show and accurately predict revenues; and
- sales of our ordinary shares.

We are not and will not be able to control many of these factors, and we believe that period-to-period comparisons of our financial results will not necessarily be indicative of our future performance.

In addition, the stock market in general, and the market for biotechnology companies in particular, has been experiencing extreme price and volume fluctuations that may be unrelated or disproportionate to the operating performance of individual companies. These broad market and industry factors may seriously harm the market price of our ordinary shares, regardless of our operating performance.

Furthermore, the market prices of equity securities of companies that have a significant presence in Israel may also be affected by the changing security situation in the Middle East and particularly in Israel. As a result, these companies may experience difficulties in raising additional financing required to effectively operate and grow their businesses. Such difficulties and the volatility of the securities market in general, and our share price in particular, may affect our ability to raise additional financing in the future. Thus, market and industry-wide fluctuations may adversely affect the trading price of our ordinary shares, regardless of our actual operating performance.

Provisions of Israeli law may delay, prevent or affect a potential acquisition of all or a significant portion of our shares or assets and therefore depress the price of our shares.

Israeli corporate law regulates mergers, requires tender offers for acquisitions of shares above specified thresholds, requires special approvals for transactions involving directors, officers or significant shareholders and regulates other matters that may be relevant to these types of transactions. The provisions of Israeli law may delay or prevent an acquisition, or make it less desirable to a potential acquirer, even if such an acquisition would be considered beneficial by a

majority of our shareholders, and may thereby depress the price of our shares. For information about these limitations, see "Anti-Takeover Provisions under Israeli Law" under "Item 10. Additional Information." Furthermore, Israeli tax considerations may make potential transactions undesirable to us or to some of our shareholders.

Risks Relating to Operations in Israel

Conditions in the Middle East and in Israel may harm our operations.

Our offices and research and development facilities are located in Israel. Accordingly, political, economic and military conditions in Israel may directly affect our operations. Since the establishment of the State of Israel in 1948, a number of armed conflicts have taken place between Israel and its Arab neighbors, as well as incidents of civil unrest, military conflicts and terrorist actions. In addition, Israel and companies doing business with Israel, have in the past, been the subject of an economic boycott. Any future armed conflicts or political instability in the region may negatively affect business conditions and adversely affect our results of operations. Parties with whom we do business have sometimes declined to travel to Israel during periods of heightened unrest or tension, forcing us to make alternative arrangements when necessary. In addition, the political and security situation in Israel may result in parties with whom we have agreements involving performance in Israel claiming that they are not obligated to perform their commitments under those agreements pursuant to force majeure provisions in the agreements. We cannot give you any assurance that this will not continue to be the case. Additionally, if there were to be emergency conditions, some of our key employees may be called to active army duty for extended periods of time and that could adversely affect our operations.

Our insurance does not cover losses that may occur as a result of events associated with the security situation in the Middle East. Although the Israeli government currently covers the reinstatement value of direct damages that are caused by terrorist attacks or acts of war, we cannot assure you that such government coverage will be maintained. Any losses or damages incurred by us could have a material adverse effect on our business. Any armed conflicts or political instability in the region would likely negatively affect business conditions and could harm our results of operations.

Our results of operations may be adversely affected by the devaluation of the dollar against the New Israeli Shekel.

We hold most of our cash, cash equivalents, deposits and marketable securities in U.S. dollars but incur a significant portion of our expenses, principally salaries and related personnel expenses and administrative expenses, in New Israeli Shekels. As a result, we are exposed to the risk that the U.S. dollar will be devalued against the New Israeli Shekel. Depreciation of the US dollar could have a material adverse effect on our results of operation and financial condition. As of December 31, 2009, we did not hold any derivative instrument arrangements. For more information, see Note 2s of our 2009 consolidated financial statements.

We may not continue to be entitled to certain tax benefits.

We are entitled to certain tax benefits under Israeli government programs.

The tax benefits are a function of the "Approved Enterprise" and "Privileged Enterprise" status of our existing facilities in Israelas such terms are defined under the Israeli tax law and regulations. For more information, see "Item 5. Operating and Financial Review and Prospects; Operating Results; Governmental Economic, Fiscal, Monetary or Political Policies that Materially Affected or Could Materially Affect our Operations". To date we have not received any such tax benefits because we have not yet generated any taxable income. To maintain our eligibility for such tax benefits, we must continue to meet certain conditions, including making specified investments in fixed assets and financing a percentage of investments with share capital.

If we cease to remain entitled to such tax benefits, we may be required to pay increased taxes on the taxable income that we may generate in the future.

It may be difficult to enforce a U.S. judgment against us, or our officers and directors or to assert U.S. securities law claims in Israel.

It may be difficult to obtain, within the United States, service of process upon us, since we are incorporated in Israel, and upon our directors and officers and our Israeli auditors, almost all of whom reside outside the United States, . In addition, because substantially all of our assets and all of our directors and officers are located outside the United States, any judgment obtained in the United States against us or any of our directors and officers may not be collectible within the United States.

ITEM 4. INFORMATION ON THE COMPANY

History and Development of the Company

Our legal and commercial name is Compugen Ltd. We were established as a corporation and have operated under the laws of the State of Israel since 1993. Our principal offices are located at 72 Pinchas Rosen Street, Tel Aviv 69512, Israel, and our telephone number is +972-3-765-8585. Our primary Internet address is www.cgen.com. None of the information on our website is incorporated by reference into this annual report.

Our initial business beginning in 1994 was to develop and commercialize a computer hardware system and software applications to accelerate homology searches of biological sequences under the name "Bioccelerator" in order to facilitate an understanding of the human genome and proteins. Thereafter, we began to develop better algorithms to increase the speed of processing and to cope with the high level of complexity of life at the molecular level. The initial result of this effort was an early understanding that the majority of human genes can express multiple transcripts (i.e. alternative splicing) and therefore multiple proteins.

Beginning with this understanding of alternative splicing, our research efforts were then largely directed to obtaining additional predictive understandings of selected biological phenomena at the molecular level, including how genes express transcripts, how transcripts become proteins, and how proteins are cleaved to create peptides. These efforts, over more than 10 years, created a core infrastructure of multidisciplinary and experienced researchers, computational biology systems, tools and algorithms and proprietary understandings and predictive models of key aspects of life at the molecular level. During this period we obtained revenues by providing certain of these capabilities to third parties (including multi-million dollar collaborations with Abbott Laboratories, Human Genome Sciences Inc., Novartis Pharma AG and Warner-Lambert Company, and the United States Patent and Trademark Office) in the form of services and software products. In late 2004, we began to focus a significant portion of our research and development efforts on utilizing this infrastructure to create platforms designed for the predictive discovery of drug and diagnostic product candidates in various fields of interest. Consistent with this new focus, we discontinued commercialization of computational biology tools and services.

Although a number of attractive drug and diagnostic product candidates have been discovered largely during the validation stages for our various platforms, we see our primary competitive advantage as having the ability to undertake "discovery on demand", which is the utilization of our computational biology based on "prediction and selection" methodologies to systematically discover multiple product candidates in specified fields of interest to our collaboration partners. Such "discovery on demand" collaborations based on our existing and "to be developed" platforms are a high priority for our company and we expect that these types of collaborations will provide the majority of our research revenue, milestone and royalty opportunities in the future. Furthermore, we anticipate that during the next few years the primary focus of these collaborations will be related to therapeutic peptides and monoclonal antibody drug targets.

In 1999, we established a division to utilize our *in silico* predictive discovery capabilities in the agricultural biotechnology field. On January 1, 2002, we transferred this business to Evogene Ltd., a newly formed corporation in exchange for 1,640,000 ordinary shares of Evogene, representing 82% of such company's initial capital. The remaining 360,000 Evogene shares were issued to the two founding scientists, who had previously directed the agbio division at Compugen. In August 2008, Evogene entered into a multi-year research and development collaboration with Monsanto Company focused on identifying key plant genes related to yield, environmental stress and fertilizer utilization. At such time, Monsanto purchased an $18 million equity stake in Evogene and agreed to purchase an additional $12 million stake in the future, subject to certain Evogene diligence requirements. On June 30, 2009, we privately sold 1,000,000 of our Evogene ordinary shares for approximately $3.6 million. We currently hold 1,150,000 Evogene ordinary shares representing approximately 3.9% of its outstanding ordinary shares.

Also in 1999, we established a chemistry division to carry out a research program in which we integrated the disciplines of organic chemistry with physics and advanced computational technologies for the development of a method to substantially increase the predictability and success rates of small molecule drug discovery. On August 1, 2004, we transferred all of the assets and liabilities of this division to Keddem Bioscience, a wholly-owned subsidiary. In August 2007, we suspended Keddem's operations but in order to continue to seek to maximize the value of Keddem's intellectual property, in 2008, we entered into a term sheet agreement with Mada Ltd., a newly formed company owned and managed by the former two co-CEOs of Keddem, under which Compugen will license the Keddem intellectual property to Mada in exchange for royalties on any future revenues and certain access rights to any developed technology. Mada intends to seek third party funding for the development of this intellectual property.

In August 2000, we sold 5,000,000 of our ordinary shares in an initial public offering of our shares on the Nasdaq Global Market at $10.00 per share. In September 2000, we sold an additional 750,000 ordinary shares upon the exercise by

our underwriters of their over-allotment option. In January 2002, we listed our shares for trading on the Tel Aviv Stock Exchange (TASE). In November and December 2009 we sold 4,071,700 of our ordinary shares on the Nasdaq Capital Market in an "at the market" offering, at a weighted average price of approximately $4.91 per share.

For more information about our holdings in Evogene, see below "Significant Investment; Evogene Ltd." in this Item 4. See also Note 1b and Note 2g to our consolidated financial statements.

Recent Operating Developments

During 2008 and 2009 and up to the current time, we have given priority in our research efforts to (i) therapeutic peptides and monoclonal antibody drug targets, and (ii) improvement and modification of existing platform and the development of new platforms in these areas. In addition, during 2009, we began to commit a significant portion of our business development activities to potential "discovery on demand" collaborations in these areas. With respect to our other therapeutic and diagnostic platforms and programs, we intend to focus mainly on those activities pursued in collaboration with other companies. During the past two years, we have announced a number of product candidate discoveries, validation results and new discovery platforms. These have included:

- *In vivo* validation studies of two novel peptide agonists of the FPRL1 G-protein coupled receptors ("GPCR"), which may serve as anti-inflammatory and cardio-protective drug candidates.

- *In vivo* validation studies for two novel peptide agonists of the MAS GPCR, indicating cardio-protective, and anti-hypertensive effects, with therapeutic potential for the treatment of various cardiovascular and other pathologies.

- Development and validation of our Blockers of Disease-Associated Conformation ("DAC Blockers") platform, designed for the systematic discovery of novel peptides that block proteins from adopting disease-associated conformations.

- Discovery and experimental verification of a blood based biomarker candidate for lung cancer.

- Experimental results for three Compugen discovered Relaxin related molecules demonstrating potential therapeutic utility in labor complications, infertility, inflammation, congestive heart failure and fibrotic diseases. Positive therapeutic effects of one of these novel peptides were shown in an animal model of pulmonary fibrosis.

- Discovery of more than ten novel antibody therapy targets for various types of solid and hematopoietic cancer.

- Discovery and experimental confirmation of a novel combination of four biomarkers that may enable early prediction of drug-induced kidney toxicity during pre-clinical trials in rats.

- *In vivo* validation studies, including an animal model of inflammatory bowel disease (IBD), of a novel peptide antagonist of the gp96 protein with potential for the treatment of various inflammatory diseases including IBD and other immune related pathologies.

- Discovery of a novel peptide antagonist of the Clusterin protein for which initial i*n vitro* and *in vivo* results indicate the peptide enhances the responsiveness to Taxol™, a frequently used cancer chemotherapeutic drug.

- Development and validation of a new Viral Peptides Discovery Platform designed to identify peptides from viral genomes for potential human therapeutic use for treatment of inflammatory and immune related diseases.

- Discovery and experimental verification of a novel molecular biomarker candidate for the diagnosis of ovarian cancer.

- Discovery and *in vivo* results for a novel peptide antagonist of the Angiopoietin/Tie-2 pathway, demonstrating beneficial effects in an animal model of retinopathy, supporting the potential use for the treatment of angiogenesis-related diseases, such as cancer, macular degeneration, diabetic retinopathy, psoriasis, arthritis, and atherosclerosis.

- Discovery and experimental confirmation of a genetic biomarker for predisposition to type 2 diabetes, the most

common form of diabetes.

- Discovery and experimental validation of a novel drug target, a membrane splice variant of CD55, for treatment of epithelial tumors

Principal Capital Expenditures

In the years ended December 31, 2009, 2008 and 2007, our capital expenditures were $48,000, $120,000, $205,000 respectively, and were spent primarily on laboratory equipment, computer software and hardware and leasehold improvements. We have no current material commitments for capital expenditures.

Business Overview

Compugen's mission is to be the world leader in the discovery and licensing of product candidates to the therapeutic and diagnostic industries under milestone and revenue sharing agreements. Our increasing inventory of proprietary discovery platforms is enabling the predictive discovery – field after field – of such product candidates. Unlike traditional high throughput trial and error experimental based discovery, our platforms rely on *in silico* (by computer) prediction and selection of product candidates based on our decade-long focus on the predictive understanding of important biological phenomena at the molecular level, followed by validation of the resulting candidates through the use of various *in vitro* and *in vivo* experimental techniques. Our growing number of collaborations with major pharmaceutical and diagnostic companies cover both (i) early-stage licensing of product candidates discovered mostly during the validation of our discovery platforms and in our internal research, primarily in the areas of oncology and immune-related diseases, and (ii) "discovery on demand" agreements where existing or new discovery platforms are utilized to predict and select product candidates as required by a partner of ours.

Infrastructure Platforms

We develop predictive biological computer based models and platforms that better enable us to discover potential therapeutic or diagnostic product candidates by analyzing biological data of various types such as DNA and RNA sequences, gene expression data, protein-related data and data related to drugs in development and to drugs already being commercialized.

As stated above, for more than a decade, we focused our efforts on obtaining predictive understandings of key biological phenomenon at the molecular level. An important aspect of these efforts was the creation of two key infrastructure platforms - LEADS and MED - integrating our scientific understandings and predictive models. These infrastructure platforms have played a key role in the creation of our ten existing product candidate discovery platforms.

- LEADS is Compugen's proprietary bioinformatic platform that provides a comprehensive view of the human transcriptome, proteome, and peptidome which enables the systematic discovery of novel genes, transcripts, proteins and peptides. It includes extensive gene information and annotations, such as splice variants, antisense genes, SNPs, novel genes and RNA editing. At the protein level, LEADS provides full protein annotations, including homologies, domain information, subcellular localization, peptide prediction, and novelty status.

- MED is an integrated database composed of more than 40,000 public and proprietary microarray experiments representing about 1,400 conditions (i.e. normal tissues, malignant tissues, tissues from drug treated patients, etc.). This is an open platform, thus under collaboration, additional proprietary expression data could be integrated into the platform. All microarray experiments are normalized and unified into a "virtual" chip in which the expression of genes and pathways can be examined across all conditions and tissues simultaneously. To the best of our knowledge this is the only platform that normalizes all such publicly available data. The wealth of the data allows the identification and elimination of exceptional expression results obtained from various data sources, resulting in a system with an improved signal-to-noise ratio. MED findings were found to highly correlate with expression data obtained in house by qRT-PCR assays on well established tissue RNA panels.

Product Discovery Platforms

In general, each Compugen discovery platform targets a specific field and consists of three modules: Prediction, Selection and Validation. The first two modules are largely in silico (i.e. performed by computer) while the third involves laboratory based in-vitro and in vivo experimental validation of selected candidates. The Prediction module utilizes our

computational biology capabilities and predictive models with field specific information to generate in silico a large number of putative product candidates for the specific purpose or field of interest. Next, the Selection module utilizes proprietary algorithms and tools and other methodologies, including an expert review, to select from this large number of putative product candidates a smaller number of molecules (typically in the low tens to hundreds) that we believe have the highest probability of being product candidates for that specific purpose or field of interest. Some or all of these selected molecules produced and undergo initial experimental validation and thereafter additional in vitro and/or in vivo validation testing in the third module. By using this systematic approach, we have successfully validated the predictive capabilities of a number of discovery platforms, and in addition have discovered numerous product candidates in a number of diagnostic and therapeutic areas that were first predicted in silico and then experimentally validated. In addition, this procedure provides additional data for the continued improvement of the predictive capabilities incorporated in the discovery platforms.

As demonstrated by our initial ten validated discovery platforms, our core predictive capabilities are broadly applicable across many therapeutic and diagnostic areas. However, at present, our research and discovery efforts are focused primarily in the areas of therapeutic peptides and proteins, and targets for monoclonal antibodies, and our business development activities are focused on "discovery on demand" collaborations in these areas.

Therapeutic Peptides and Proteins: Platforms and Products

Peptides are short proteins, usually of less than 40 amino acid residues. Such molecules have been used as drugs (therapeutic peptides) for almost two decades, but only in recent years have pharmaceutical and biotechnology companies begun making major investments in these drugs. This recent revival of the therapeutic peptide field is mainly due to improvements in chemical synthesis techniques that allow the synthesis of longer peptides to become almost standard practice. A major advantage of therapeutic peptides over low-molecular-weight drugs is their high specificity for their targets. Consequently, therapeutic peptides tend to have high efficacy and fewer side effects. Today, the number of peptides approved by the FDA in the U.S. and EMEA in the European Union is increasing annually at a much higher rate than that of any other therapeutic class. Further advances in peptide synthesis and peptide drug delivery methods are expected to result in an even higher impact of therapeutic peptides on the drug market.

Therapeutic proteins are proteins that are either extracted from human cells or engineered in the laboratory for pharmaceutical use. The majority of biopharmaceuticals marketed to date are recombinant therapeutic protein drugs. Therapeutic proteins are used to treat various diseases like cancer, infectious diseases, immune-related disorders, blood-related disorders etc.

Therapeutic Peptide and Protein Related Platforms:

- **GPCR Therapeutic Peptide Ligands**: GPCRs are desirable drugs targets – with at least 40% of drugs currently in the market thought to act on GPCRs. Our GPCR platform aims at finding novel peptide ligand agonists to GPCRs that could become drug candidates and is based on our predicted peptidome and our capability to identify GPCR activating peptides from it. Our underlying peptidome is a collection of thousands of novel human peptide sequences which are expected to be endogenous peptides, and was created by predicting novel cleavage sites in precursor proteins. Using this proprietary platform we have to date, identified many novel peptides that activate GPCRs and have advanced multiple peptides into *in vivo* studies.

- **Disease-Associated Conformation Blockers:** This discovery platform is designed to identify segments in proteins of interest that, if introduced therapeutically as synthetic peptides, would block specific conformational changes of such proteins, thereby preventing them from adopting disease-associated conformations and related activities. A key capability of this platform is that it enables a proteome wide search for conformational change blocking peptides in human, viral and bacterial proteomes based only on sequence information. Using this platform we have identified several such peptides and have advanced them into *in vivo* studies.

- **Viral Peptides:** This is our most recently disclosed platform, aimed at the discovery of novel therapeutic peptides from viral genomes for potential human therapeutic use against inflammatory and immune related diseases. The rationale of the platform is based on the concept of utilizing knowledge gained from viruses on how to subvert the human immune system. The initial run of this platform identified two viral peptides that were shown in *in vitro* studies on activated immune cells to suppress secretion of various cytokines and chemokines, suggesting anti-inflammatory properties.

- **Splice Variant based Therapeutic Proteins**: Alternative splicing is a biological phenomenon that enables multiple protein products from a single gene. Our historical platform, the "LEADS infrastructure platform", models this phenomenon by analyzing databases of sequence data, mainly ESTs (Expressed Sequence Tags – short sub-

sequences of a transcribed spliced nucleotide sequence) and predicts the collection of human proteins (proteome), among them many potential novel splice variants. In some cases, splice variants could be drug candidates. The LEADS infrastructure platform is used in other discovery platforms as well. In addition, we have also utilized it to discover splice variants for therapeutic peptides.

Therapeutic Peptide and Protein Product Candidates

The product candidates listed below are among those discovered or further validated largely as a result of validation activities with respect to our discovery platforms. As stated earlier, our principal business model involves use of these discovery platforms and future platforms in "discovery on demand" collaborations. Therefore, in general, we seek to out-license our own discoveries such as those listed below, at the earliest possible stage and do not intend to pursue on our own development of these product candidates beyond initial *in vitro* and *in vivo* validation.

- CGEN-855 is a novel peptide agonist of the FPRL1 GPCR receptor, discovered by Compugen's GPCR peptide ligand discovery platform. Using in vivo models of acute myocardial ischemia-reperfusion injury, CGEN-855 displayed significant inhibition of acute inflammation in mice. Furthermore, this peptide provided cardioprotection against reperfusion injury. This novel FPRL1 agonist may be a useful therapeutic agent for treatment of inflammatory diseases, and for the treatment of myocardial infarct and subsequent heart failure.

- CGEN-856 and CGEN-857 are novel MAS GPCR peptide agonists, discovered by Compugen's GPCR peptide ligand discovery platform. CGEN-856 induced relaxation of rat and murine aorta, reduced in-vivo cardiac remodeling induced by isoproterenol or ischemia, displayed anti-hypertensive effects as well as cardiac and renal anti-fibrotic effects. This peptide may thus be a useful therapeutic agent in conditions benefiting from an increase in the activity of the MAS receptor, such as hypertension, heart failure, cardiac remodeling, myocardial infarction, renal fibrosis and other cardiovascular pathologies.

- CGEN-25007 is a novel peptide antagonist of gp96 discovered using Compugen's proprietary discovery platform, namely, the DAC Blockers platform, which is designed for the prediction and selection of peptides that block proteins from adopting their disease-associated conformations. CGEN-25007 exhibited anti-inflammatory activity in both human PBMCs and murine splenocytes challenged with various inflammatory stimuli as well as in an animal model of endotoxemia. CGEN-25007 has also shown positive therapeutic effects in an animal model of inflammatory bowel disease (IBD) in which it protected mice from the effects of lethal colitis. The above results suggest that CGEN-25007 may be developed as an anti inflammatory drug.

- CGEN-25008 peptide is a novel peptide antagonist of discovered using Compugen's DAC Blockers platform. *In vitro,* CGEN-25008 evoked growth inhibition of various tumor cell lines such as non-small cell lung cancer (A549), colorectal adenocarcinoma (HT29), breast cancer (MCF7) and prostate cancer (PC3). In a xenograft animal model of lung cancer, CGEN-25008 was shown to induce up to 25% greater reduction in tumor size when given together with Taxol, in comparison to mice treated with Taxol only.

- CGEN-25009 is a novel peptide of the LGR7 receptor that was discovered by the GPCR peptide ligand discovery platform. The LGR7 receptor is known to be activated by Relaxin and therefore could potentially have therapeutic activity in various clinical indications including fibrosis, labor complications, infertility and heart failure. CGEN-25009 has shown positive therapeutic effects in an animal model of pulmonary fibrosis. Therefore, CGEN-25009 could have a potential therapeutic utility to treat pulmonary fibrosis and other fibrosis related conditions such as chronic renal failure.

- CGEN-25017 is a novel peptide antagonist of the Angiopoietin/Tie-2 pathway that has shown positive therapeutic effects in an animal model of retinopathy, a very serious eye condition characterized by over-growth of blood vessels. CGEN-25017, which was initially discovered using Compugen's Disease-Associated Conformation (DAC) Blockers discovery platform, had previously demonstrated significant inhibitory activity in two other models of angiogenesis. CGEN-25017 could have potential therapeutic utility for other diseases involving pathological angiogenesis such as cancer and inflammatory conditions, including psoriasis and rheumatoid arthritis.

- CGEN-15001 is a novel protein which has shown potential for the treatment of autoimmune disorders. CGEN-15001 is the extracellular region of a previously unknown membrane protein in the B7/CD28 family. The existence and potential utility of the newly discovered parent protein from which CGEN-15001 is derived, was predicted *in silico* utilizing Compugen's LEADS Platform and other proprietary algorithms. In an animal model of multiple

sclerosis, CGEN-15001 demonstrated potent amelioration of the disease state. CGEN-15001 could have therapeutic utility for the treatment of multiple sclerosis and other autoimmune diseases, such as rheumatoid arthritis, systemic lupus erythematosus, inflammatory bowel disease, and type-1 diabetes.

Targets for Monoclonal Antibody Therapy: Platforms and Products

During the past two decades, monoclonal antibodies (mAb) have emerged as an important new drug class. Currently, 18 mAbs have been approved for therapeutic use in the United States for various clinical indications, including oncology, chronic inflammatory diseases, transplantation, infectious diseases and cardiovascular diseases. One of the advantages of mAb therapeutics is that they belong to a well-established drug class that has a high success rate from first use in humans to receiving regulatory approval: 29% for chimeric mAbs and 25% for humanized mAbs. As a comparison, the success rate for small molecule drugs is only 11%. Across the branded prescription pharmaceutical market, mAb are forecast to be the strongest performing molecule type.

Although significant progress has been made in recent years in mAb therapeutics, numerous challenges still remain. One of these is the identification of novel targets for mAb therapy. To this end, Compugen has developed a proprietary mAb-target discovery platform to identify novel drug targets and support external partnerships.

Monoclonal Antibody Related Platforms

- **Monoclonal Antibody Targets**: This platform predicts the existence of proteins that can serve as targets for antibody therapeutics. It combines several data sources such as the LEADS infrastructure platform, MED platform for gene expression profiles, and protein domains and localization predictions. We have recently begun to experimentally validate drug target candidates which are novel membrane proteins which we believe may serve as targets for antibody therapeutics and may play a role in the treatment of various cancer and autoimmune diseases.

Monoclonal Antibody Target Product Candidates

- CGEN-671, a new drug target for treatment of multiple epithelial tumors, is a membrane splice variant of CD55, a known drug target for gastric cancer. The potential application of CGEN-671 as a drug target was initially predicted *in silico* through the use Compugen's Monoclonal Antibody Targets Discovery Platform. Immunohistochemistry (IHC) results from cancerous and healthy tissue sections strongly suggest significant potential for CGEN-671 as a drug target for clinical development of various types of mAb drug therapy for colorectal, breast and lung carcinomas, and possibly for additional epithelial derived tumors.

Other Therapeutic and Diagnostic Platforms and Products

Over the past several years, we have developed additional discovery platforms used for the discovery of novel drugs and diagnostic candidates. These platforms rely on the rich infrastructure developed at Compugen and the ability to integrate additional data sources, enabling each discovery platform to be tailored for a specific unmet need. At present, our research and discovery efforts are focused primarily in the areas of therapeutic peptides and targets for monoclonal antibodies, therefore the below platforms are used and will be used in the near future only under collaboration programs with partners in the pharmaceutical and diagnostic industry.

Other Therapeutic and Diagnostic Platforms

- **Nucleic-Acid Disease Markers**: Using the LEADS infrastructure platform in combination with a gene expression database, we can identify RNA sequences found in different levels in pathological as opposed to healthy conditions. These RNA sequences can be used as biomarkers for the diagnosis of specific pathological conditions, such as cancer.

- **Protein Disease Markers**: Using the same capabilities as above, we can identify RNA sequences that are translated to proteins secreted to the blood stream under various pathological conditions. Such protein sequences, identified in the bloodstream, can serve as biomarkers for the diagnosis of various diseases.

- **Nucleic-Acid Preclinical Toxicity Markers:** Using the LEADS infrastructure platform in combination with gene expression experiments designed to identify drug-induced toxicity biomarkers, we can identify high levels of RNA sequences in tissues that were exposed to toxic drug agents. Such RNA sequences can be used as biomarkers for the early detection of toxicity in preclinical trials.

- **Non-SNP Drug Response Markers**: This platform (also called our "GeneVa platform") predicts non-SNP genetic variations in the human genome that could be potential drug response and disease predisposition markers. This platform consists of three components: a component constituting an atlas with over 350,000 predicted non-SNP variations, a component that associates variations from this atlas with certain conditions of interest (e.g. response to a drug), and an experimental genotyping component that allows testing of variations on human DNA samples.

- **New Indications**: This platform predicts new indications for existing drugs through the analysis of vast amounts of information and raw data from many different experimental and drug and disease specific sources, including gene expression, known or predicted protein networks, gene regulation data, known or predicted associations between genes and pathologies and other experimental results. A key component of the platform is the Compugen developed MED (Mining of Expression Data) infrastructure technology, which is also being utilized in other discovery platforms.

Other Therapeutic and Diagnostic Product Candidates

The product candidates listed below are among those discovered or further validated, largely as a result of validation activities with respect to our discovery platforms. As previously stated, in general, we seek to out-license our own discoveries such as those listed below, at the earliest possible stage and do not intend to pursue on our own development of these product candidates beyond initial validation.

- CGEN-40001 is a novel insertion in PFKP (platelet phosphofructokinase) which was discovered and validated as a genetic biomarker for predisposition to type-2 diabetes.

- CGEN-226 is a soluble splice variant of the vascular endothelial growth factor (VEGF) receptor 1 gene and could serve as a novel biomarker for early detection of preeclampsia.

- CGEN-327 is a novel splice variant of the Human Epididymis Protein 4 gene, which is a known biomarker for ovarian cancer. This splice variant can also serve as a novel biomarker for ovarian cancer

- CGEN-50001 is a small molecule drug which has been used in the clinic for many years for CNS related indications and has a well established safety profile, which we predicted would likely strengthen the effect of anti-breast cancer drugs which target the estrogen receptor, such as Tamoxifen.

Existing Customers and Collaborators

In the ordinary course of business, we enter into agreements under which we give options to out-license novel therapeutic and diagnostic product candidates, most of which were discovered during the validation stages of our discovery platforms. We intend to continue to seek to license out novel therapeutic and diagnostic product candidates that we discover, to pharmaceutical, biotechnology and diagnostics companies. However, our primary focus moving forward is to enter into "discovery on demand" collaborations where we utilize our existing and to be developed platforms to focus on areas of interest to our partners. We seek to generate revenues from these collaborations primarily in the form of certain predetermined developmental stages and milestones, and royalties from the sales of the drugs and/or diagnostics applications.

To date, none of the product candidates covered by our collaborations have advanced beyond the validation stage, and we believe that many product candidates covered by our collaborations may not advance beyond the validation stage. Under all of the agreements that we have entered to date, and as is customary in the industry, successful outcomes with respect to any validation, development or commercial milestones are not guaranteed nor contractually required of us or of our partner company. In addition, successful validation outcomes do not necessarily ensure that our collaborators will choose to license our product candidates, thus potentially requiring us to seek alternative collaborators or other avenues for the development of these product candidates. Also, mergers or acquisitions involving our collaborators, personnel changes at our collaborators, changes in our collaborators' strategic focus and other changes unknown to us and beyond our control can occur, which potentially could negatively affect the determination by such collaborators whether ultimately to license or continue the development of our product candidates, thus potentially requiring us to seek alternative collaborators or other avenues for the further development and commercialization of these product candidates.

The following are our existing out-licensing evaluation and option agreements for product candidates, recently entered into:

- A research and license agreement with a leading diagnostic company covering CGEN-226, a novel biomarker candidate for early detection of preeclampsia, the most common of the dangerous pregnancy complications. If the condition is not recognized, and the pregnancy is left to continue to full term, the disease will progress to eclampsia, often resulting in seizure, coma and mortality. Therefore, diagnosing preeclampsia in the early stages of a pregnancy is a field of high interest to the medical community and diagnostic industry. CGEN-226 is a soluble splice variant of the vascular endothelial growth factor (VEGF) receptor 1 gene. This previously unknown splice variant was predicted and selected through the use of Compugen's *in silico* modeling of the human transcriptome and proteome for the discovery of novel molecules for diagnostic and therapeutic uses. Following its *in silico* prediction and selection, CGEN-226 was validated experimentally, and patent applications covering this novel splice variant were made for various diagnostic and therapeutic applications.

- A collaboration agreement with Bayer Schering Pharma AG covering further evaluation of a Compugen discovered tumor target and its splice variants. The agreement provides Bayer with an option for an exclusive worldwide royalty bearing license for development of monoclonal antibodies and other therapeutic agents addressing these novel target molecules. The existence of the target and its splice variants was initially predicted *in silico* by us through the use of our Monoclonal Antibody (mAb) Targets Discovery Platform; the predicted molecules were then validated experimentally.

- A research and license option agreement for CGEN-327, a novel molecular biomarker candidate which is a previously unknown splice variant of the HE4 (Human Epididymis Protein 4) gene, for the diagnosis of ovarian cancer. This collaboration provides Compugen's partner with an option to obtain worldwide royalty bearing commercialization rights for diagnostic products based on this unique and novel splice variant, with Compugen retaining all therapeutic applications.

- An undisclosed collaboration with a peptide delivery company for the joint development and commercialization of certain of our therapeutic peptide product candidates. Under this agreement, therapeutic peptides proposed by Compugen and accepted for collaboration would be stabilized using our partner's technology, developed to an investigational new drug, or IND stage by our partner, and thereafter out-licensed.

With respect to our primary business development focus on "discovery on demand" collaborations, in December 2009, we announced an agreement with Pfizer for the predictive discovery by Compugen of therapeutic peptide product candidates for three drug targets of interest to Pfizer. After the initial discovery process, based on various Compugen discovery platforms and funded by Pfizer, the predicted molecules will be synthesized and delivered to Pfizer. Following an evaluation period, Pfizer will have the right to exercise options for worldwide exclusive milestone and royalty bearing licenses to develop and commercialize the selected product candidates or further optimize them to obtain final potent, selective product candidates with favorable pharmacokinetic properties.

Our Strategy

Our mission is to be the world leader in the discovery and licensing of product candidates to the therapeutic and diagnostic industries under milestone and revenue sharing agreements. Our increasing inventory of powerful and proprietary discovery platforms is enabling the predictive discovery – field after field – of such product candidates. Unlike traditional high throughput trial and error experimental based discovery, our platforms rely on *in silico* (by computer) prediction and selection of product candidates based on our decade-long focus on the predictive understanding of important biological phenomena at the molecular level, followed by validation of the resulting candidates through the use of various *in vitro* and *in vivo* experimental techniques. Our growing number of collaborations with major pharmaceutical and diagnostic companies cover both (i) early-stage licensing of product candidates discovered mostly during the validation of our discovery platforms and in our internal research, primarily in the areas of oncology and immune-related diseases, and (ii) "discovery on demand" agreements where existing or new discovery platforms are utilized to predict and select product candidates as required by a partner.

To date, we have commenced implementing this strategy through (i) the successful development and validation of the predictive capabilities of our ten discovery platforms, (ii) the discovery of numerous product candidates in several diagnostic and therapeutic areas that were first predicted and selected *in silico* and then initially validated *in vitro* and/or *in vivo* in the laboratory, and (iii) the signing of collaboration and license agreements with major Pharmaceutical and Diagnostic companies for the development and commercialization of novel diagnostic and therapeutic products.

Subsidiary

Keddem Bioscience Ltd.

In 1999, we established a chemistry division that focused on substantially increasing the predictability and success rates of small molecule drug discovery. On August 1, 2004, we transferred all of the assets and liabilities of this division to Keddem Bioscience ("Keddem"), a wholly-owned subsidiary.

In August 2007, we suspended Keddem's operations and as such, it is reflected as a discontinued operation in our consolidated financial statements. In 2008, in order to continue to seek to maximize the value of Keddem's intellectual property, we entered into a term sheet agreement with Mada Ltd., a newly formed company owned and managed by the former two co-CEOs of Keddem, under which Compugen will license the Keddem intellectual property to Mada in exchange for royalties on any future revenues and certain access rights to any developed technology. Mada intends to seek third party funding for the development of this intellectual property, but we can give no assurances that it will be successful in doing so.

For more information on Keddem, see Item 7. "Major Shareholders and Related Party Transactions; Related Party Transactions; Keddem Bioscience Ltd.".

Significant Investment

Evogene Ltd.

In 1999, we established a division to utilize our *in silico* predictive discovery capabilities in the agricultural biotechnology field. In January 2002, we transferred this business, including a three year Computational Tools License to certain existing Compugen computational biology knowhow, including LEADS, to Evogene Ltd, a newly formed corporation in exchange for 1,640,000 ordinary shares of Evogene, representing 82% of the company's initial capital. Evogene Ltd. issued 360,000 ordinary shares representing 18% of the company's initial capital to the two founding scientists, who previously had directed the agbio division at Compugen.

In August 2004, the Computational Tools License was extended for two additional years in consideration of the issuance to Compugen of 350,000 ordinary shares of Evogene. In August 2006, we agreed to grant Evogene a license to certain software which supports the LEADS technology licensed under the Computational Tools License Agreement in consideration of which, Evogene issued to us 40,000 ordinary shares during 2006 and an additional 20,000 ordinary shares during 2008. In May 2007 we entered into a further extension, granting Evogene a license to certain software until December 31, 2014 for which Evogene paid us $150,000 and issued to us 100,000 Evogene ordinary shares.

In February, 2006 Evogene entered into an equity investment agreement with certain investors for $7 million. We did not participate in this financing round. In June, 2007, Evogene completed an initial public offering on the Tel Aviv Stock Exchange. We did not participate in this public offering. In August 2008, Evogene entered into a five-year research and development collaboration with Monsanto Company focused on identifying key plant genes related to yield, environmental stress and fertilizer utilization. At such time, Monsanto purchased an $18 million equity stake in Evogene and agreed to purchase an additional $12 million in the future, subject to certain Evogene diligence requirements.

In August 2008, Evogene granted to us 30,000 options to purchase ordinary shares subject to the terms of the "Evogene Share Option Plan (2002)". Each of Evogene's directors was entitled to such options in consideration for their service as a director. Mr. Eli Zangvil, Compugen's representative on Evogene's board of directors, instructed that these options be issued directly to Compugen and not to him personally.

On June 30, 2009 we announced that we received approximately $3.6 million from the private sale of 1,000,000 Evogene shares to a single purchaser. As a result of the above financings, sale of shares and other transactions, as of December 31, 2009, we held 1,150,000 Evogene shares, with the ability to vote 3.9% of Evogene's share capital and 30,000 options to purchase ordinary shares of Evogene.

Our investment in Evogene was historically accounted for in accordance with FASB Accounting Standards Codification ("ASC") 323-10 "Investments – equity method and joint ventures". Through February 2006, when Evogene completed a major finance round, we accounted for the investment under the equity method. The finance rounds resulted in our holdings being diluted to below 20% of Evogene's outstanding stock. We cannot exercise significant influence over operating and financial policies of Evogene and the carrying amount of the investment is currently classified and accounted for as available-for-sale marketable securities in accordance with ASC 323-10. Securities available-for-sale are carried at fair

value, with the recognized gains and losses reported as a separate component of stockholders' equity under accumulated other comprehensive income in our consolidated balance sheet.

For more information on our holdings in Evogene, see also Note 1b to our 2009 consolidated financial statements.

Sales, Marketing and Business Development

Since our incorporation in 1993, we have devoted most of our capital and human resources to obtaining deeper and predictive understandings of important life processes at the molecular level and utilizing these understandings as well as our extensive and growing base of proprietary computational biology systems, tools and platforms, to substantially improve important aspects of drug and diagnostic product discovery. In recent years, these efforts have focused on the development of field-specific discovery platforms and the prediction, selection and initial validation of numerous drug and diagnostic candidates. Therefore, our principal sales, marketing and business development efforts currently involve licensing or other forms of collaborations with biotech, pharmaceutical and diagnostic companies for the development and commercialization of our product candidates and our discovery platforms. In earlier years we provided certain of our capabilities in the form of services and software tools to third parties, but these activities were largely discontinued by 2004.

In 2009, we suspended our business development presence and operations in Rockville, Maryland USA.

Principal Markets

Our business model is primarily based on receiving revenues in the form of fees, milestones, research revenues and royalties and other revenue sharing payments from licensees and development partners. Therefore, current revenues remain insignificant. Revenues for the year ended December 31, 2009 were $250,000, most of which were in Europe. The approximate geographical breakdown of our revenues for the year ended December 31, 2009 was 10% in North America and 90% in Europe. For the year ended December 31, 2008, the approximate geographical breakdown of our revenues was 12% in North America and 88% in Israel. For the year ended December 31, 2007, all of our revenues were in North America.

Raw Materials

We use a large range of raw materials in our research. For our research and discovery activities, we use biological information databases such as databases of ESTs, which are short nucleotide sequences that code for the expression of partial mRNA, databases of DNA sequences, gene expression databases, including datasets from microarray experiments, databases which link proteins to diseases, protein-protein interaction and pathway databases and databases that match drugs with their respective targets. We also use a large range of biological reagents such as cell growth media, enzymes, antibodies as well as human tissue samples and cell lines for our therapeutic and diagnostic validation activities.

We rely on the quality and integrity of the raw materials that we use. We have encountered circumstances in which various biological reagents that we acquired were found to be of poor quality. Such circumstances may delay and even interfere with our discovery and development efforts.

Intellectual Property Rights

Our intellectual property assets are our principal assets. These assets include the intellectual property rights subsisting in our proprietary know-how and trade secrets, the copyrights subsisting in our software and related documentation and in our patents and patent applications. We seek to vigorously protect our rights and interests in our intellectual property. We expect that our commercial success will depend on, among other things, our ability to obtain commercially valuable patents especially for our therapeutic and diagnostic product candidates, maintain the confidentiality of our proprietary know-how and trade secrets and otherwise protect our intellectual property.

We seek patent protection for inventions that relate to our therapeutic and diagnostic potential product candidates as well as certain components of our technology platforms. We currently have a total of 18 issued patents of which 16 are US patents. We also have 88 pending patent applications, which include 33 patent applications that have been filed in the United States (six of which have to date been allowed for issuance) and eight applications that have been filed under the Patent Cooperation Treaty for which we have not yet designated the countries of filing. We plan to continue to apply for patent protection for our therapeutic and diagnostic inventions, including for related inventions such as antibodies and peptides.

We also seek protection for our proprietary know-how and trade secrets that are not protectable or protected by patents,

by way of safeguarding them against unauthorized disclosure. This is done through the extensive use of confidentiality agreements and assignment agreements with our employees, consultants and third parties as well as by technological means. We use license agreements both to access third party technologies and to grant licenses to third parties to exploit our intellectual property rights.

Competition

The biotechnology and pharmaceutical industries are highly competitive. Numerous entities in the United States and elsewhere compete with our efforts to make discoveries and commercialize them. Our competitors include pharmaceutical, biotechnology and diagnostic companies, academic and research institutions and governmental and other publicly funded agencies.

We face, and expect to continue to face, competition from entities that discover and develop products that have a function similar or identical to the function of our therapeutic and diagnostic product candidates. In respect of our diagnostic product candidates, we potentially face competition from any company to the extent that it discovers or develops diagnostic products, and especially, if its products are aimed at diagnosing cancers, cardiovascular diseases and immune-related diseases as well as toxicity biomarkers. These companies include companies such as Abbott, Beckman, Quest, LabCorp and diaDexus, Inc. In respect of our therapeutic product candidates, our potential competitors comprise companies that develop or commercialize therapeutic protein or peptides such as Amgen, Inc., Wyeth Pharmaceuticals, Inc., Genentech, Inc., and Zymogenetics, Inc.

Our discovery program depends, in large part, on our discovery platforms and other technologies and our proprietary data to make inventions and establish intellectual property rights in genes and gene-based products, including mRNAs, proteins and peptides. There are a number of other means by which such inventions and intellectual property can be generated. We believe that our computational technologies, and specifically our discovery platforms, provide us with a competitive advantage in the field of predicting gene-based products, and occasionally gain some information on their biological importance. We believe that this advantage is made possible by the incorporation of ideas and methods from mathematics and computer science into biology, and by the modeling of significant biological phenomena and the resultant better research capabilities that we have developed. Nevertheless, we may lose this advantage if our existing or future competitors make scientific and technological progress. In addition, we may discover and pursue the development of therapeutic or diagnostic product candidates that could conflict with our collaborators' discovery and development plans, including licensees or collaborators to whom we granted in the past a license to use certain of our earlier computational platforms.

Government Regulation

Environmental Regulation

Some of our research and development activities involve the controlled use of biological and chemical materials, a small amount of which could be considered to be hazardous. We are subject to Israeli laws and regulations governing the use, storage, handling and disposal of all these materials and resulting waste products. We store relatively small amounts of biological and chemical materials. To our knowledge, we substantially comply with these laws and regulations. However, the risk of accidental contamination or injury from these materials cannot be entirely eliminated. In the event of an accident, we could be held liable for any resulting damages, and any liability could exceed our resources.

Regulation of Use of Human Tissue

We need to access and use various human or other organisms' tissue samples for the purpose of development and or validation of some of our products. Our access and use of these samples is subject to government regulation, in the United States, Israel and elsewhere and may become subject to further regulation. United States and other governmental agencies may also impose restrictions on the use of data derived from human or other tissue samples. To our knowledge, we substantially comply with these regulatory requirements.

Regulation of Products Developed with the Support of Research and Development Grants

For a discussion of regulations governing products developed with research and development grants from the Government of Israel, see "Item 5. Operating and Financial Review and Prospects; Research and Development, Patents and Licenses; Israeli Government Research and Development Programs."

Organizational Structure

We incorporated our wholly-owned U.S. subsidiary, Compugen USA, Inc., in 1997 and in January 2008, we established a wholly-owned UK Subsidiary, Compugen UK Ltd. Neither of these subsidiaries had any significant operations during 2009. Our research and discovery, business development and commercial operations are all carried out primarily from our Tel Aviv offices.

Property, Plants and Equipment

As of January 1, 2010, we lease an aggregate of approximately 15,380 square feet of office and biology laboratory facilities in Tel Aviv, Israel, which lease expires in December 2012. We believe that the facilities that we currently lease are sufficient for at least the next 12 months.

There are no encumbrances on our rights in these leased properties or on any of the equipment that we own.

To our knowledge, there are no environmental issues that affect our use of the properties that we lease.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not Applicable

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

The following discussion of our critical accounting policies and our financial condition and operating results should be read in conjunction with our consolidated financial statements and related notes, prepared in accordance with U.S. GAAP as of December 31, 2009, and with any other selected financial data included elsewhere in this annual report.

Background

We are a company that engages in drug and diagnostic product candidate discovery and commercialization of such candidates largely through early stage licensing and development agreements. Our business is focused on developing and using our growing inventory of field-focused discovery platforms to predict, select and validate therapeutic drug candidates and diagnostic biomarker candidates. Our initial discovery platforms have focused mainly on cancer, cardiovascular and immune-related diseases. Prediction and selection of product candidates is largely computer based, utilizing one or more of our discovery platforms, while validation of the resulting candidates is accomplished through the use of various *in vitro* and *in vivo* experimental techniques. Product candidate discoveries are pursued either (i) by us independently and/or (ii) under various forms of collaborations with partner companies whereby our discovery platforms or other discovery capabilities are targeted to areas of interest of such partner companies ("discovery on demand" collaborations). In general, we seek to license out our discoveries at an early stage with the goal of maximizing the number of our product candidates in development by our licensing and development partners under various types of milestone and revenue sharing agreements.

OPERATING RESULTS

Overview

Overview of Operating Results

We have incurred losses and our revenues may not increase over the next few years.

Since our inception, we have incurred significant losses and, as of December 31, 2009, we had an accumulated deficit of $161 million. We may continue to incur net losses in the foreseeable future

In late 2004, we began to focus a significant portion of our research and discovery efforts on the creation of field specific discovery platforms intended to identify novel drug and diagnostic product candidates and discontinued commercialization of our computational biology software products, with a resulting decrease in revenues. We incurred net losses of approximately $12 million in 2007, approximately $13 million in 2008 and approximately $4 million in 2009. We may continue to incur net losses in the future due in part to the costs and expenses associated with our research and discovery

activities, including the building and validation of additional discovery platforms. Our business model is primarily based on receiving revenues in the form of fees, milestones and royalties, research revenues and other revenue sharing payments from licensees and development partners of drug and diagnostic products based on Compugen made or enabled product candidate discoveries. To date, we have received only minimal such revenues.

Our net research and development expenses are expected to account for more than 65% of our total operating expenses.

Our net research and development expenses are expected to be our major operating expense in 2010, accounting for more than 65% of our expected total 2010 operating expenses. Our research and development expenses have always comprised a significant portion of our expenses.

In 2007, 2008 and 2009, these expenses continued to be, and we expect will continue to be, our largest operating expense.

Overview of Liquidity and Capital Resources.

We currently have sufficient working capital in order to sustain our operations for the next twelve months. For a detailed description of our cash and cash equivalents position, see "Liquidity and Capital Resources" in this Item 5.

Compensation expenses attributed to option grants.

We recorded compensation expenses of approximately $2.3 million in 2007, approximately $1.7 million in 2008 and approximately $1.5 million in 2009 in connection with the grant of share options. These expenses are attributable to options that we granted to our employees and directors and to those of our consultants to whom we granted stock options with an exercise price at the fair market value known on the date of grant. The fair value of these grants is amortized over the vesting periods of the individual share options. Based on options granted through December 31, 2009 and on our ordinary share price on that date, we estimate that our future amortization of compensation expenses will be approximately $918,000 in 2010, $823,000 in 2011, $426,000 in 2012 and $147,000 in 2013. These estimates are subject to the amount of granted options at any given point in time. Our current policy is to grant options at the fair market value known on the date of grant. For more information, see Note 2n of our 2009 consolidated financial statements.

Critical Accounting Policies

The preparation of our consolidated financial statements and other financial information appearing in this annual report requires our management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We evaluate on an on-going basis these estimates, mainly related to revenues, contingencies and taxation.

We base our estimates on our experience and on various assumptions that we believe are reasonable under the circumstances. The results of our estimates form the basis for our management's judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Revenue Recognition

We generated revenues from collaboration research agreements, under which we delivered peptides and provide professional services to customers with the possibility of receiving future milestones and royalties on successful products. In previous years, we also generated revenues from the license of software products:

For accounting purposes, we view our collaboration research agreements as service arrangements with milestones and royalties on successful products and follow the revenue recognition criteria in ASC 605-10. Under these arrangements, revenue is recognized when we complete our performance obligations.

We believe that a customer realizes value from a transaction only when and if the final act is performed and therefore, performance should be deemed to have occurred, and revenue recognized, when that act takes place. As of the balance sheet date no milestones payments or royalties have been received.

Revenues from software licenses to Evogene are recognized in accordance with ASC 985-605 "Software Revenue Recognition" ("ASC 985-605"), as amended, when persuasive evidence of an agreement exists, delivery of the product or

service has occurred, no significant obligations with regard to implementation remain, the fee is fixed or determinable, and collectability is probable. ASC 985-605 generally requires revenues earned on software arrangements involving multiple elements to be allocated to each element based on the relative fair value of the elements. ASC 985-605 requires that revenues be recognized under the "Residual Method" when vendor specific objective evidence (VSOE) of fair value exists for all undelivered elements and no VSOE exists for the delivered elements and all revenue recognition criteria of ASC 985-605, as amended, are satisfied.

Maintenance and support revenues included in these arrangements are deferred and recognized on a straight-line basis over the term of the maintenance and support agreement. The VSOE of fair value of the undelivered elements (maintenance, support and professional services) is determined based on the price charged for the undelivered element when sold separately or based on renewal rate.

Deferred revenues include amounts received from customers for which revenue has not been recognized.

Share Based Payments

ASC 718 requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as an expense over the requisite service periods in our consolidated income statement.

We primarily selected the Black-Scholes-Merthon model, which is the most common model in use in evaluating stock options. This model evaluates the options as if there is a single exercise point, and thus considers and expected option life (expected term). The input factored in this model is constant for the entire expected life of the option.

We recognize compensation expenses for the value of awards which have graded vesting based on the straight line method over the requisite service period of each of the awards, net of estimated forfeitures. ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term “forfeitures” is distinct from “cancellations” or “expirations” and represents only the unvested portion of the surrendered option. We currently expect, based on analysis of our historical forfeitures, that approximately between 91% to 95% of our options will actually vest, and therefore as of December 31, 2009, we have applied an annual forfeiture rate between 5% to 9% for all options, assuming this percentage of options will not actually vest.

The computation of expected volatility is based on realized historical stock price volatility as well as historical volatility of our stock starting from our IPO date. The risk-free interest rate assumption is the implied yield currently available on United States treasury zero-coupon issues with a remaining term equal to the expected life term of the options. We determined the expected life of the options according to the actual life term method, using the average of vesting and the contractual term of the option.

Share-based compensation expense recognized under ASC 718 was $2.3 million, $1.7 million and $1.5 million for the years ended December 31, 2007, 2008 and 2009 respectively.

Contingencies

We periodically estimate the impact of various conditions, situations and/or circumstances involving uncertain outcomes to our financial condition and operating results. These events are called “contingencies”, and the accounting treatment for such events is prescribed by the Statement of ASC 450, “Contingencies” (“ASC 450”). ASC 450 defines a contingency as “an existing condition, situation, or set of circumstances involving uncertainty as to possible gain or loss to an enterprise that will ultimately be resolved when one or more future events occur or fail to occur”. Legal proceedings are a form of such contingencies.

We are not currently involved in any legal proceedings and are not required to assess the likelihood of any specific adverse judgments or outcomes of such proceedings or of any potential ranges of probable losses. A determination of the amount of any accruals, if required, for these contingencies would be made after careful analysis. For more information in relation to legal proceedings, see “Item 8. Financial Information; Consolidated Statements and Other Financial Information; Legal Proceedings.” It is possible, however, that future results of operations for any particular quarter or annual period could be materially affected by changes in our assumptions or as a result of the effectiveness of our strategies related to these legal proceedings.

Accounting for Uncertainty in Income Taxes

We account for income taxes in accordance with ASC 740, " Income Taxes". This codification prescribes the use of the liability method whereby deferred tax asset and liability account balances are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. We provide a valuation allowance, if necessary, to reduce deferred tax assets to their estimated realizable value. As of December 31, 2009, we provided a full valuation allowance.

Effective January 1, 2007, we adopted ASC 740-10 an interpretation of ASC 740 ("ASC 740-10"). ASC 740-10 contains a two-step approach to recognizing and measuring uncertain tax positions accounted for in accordance with ASC 740. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon settlement.

We must assess the likelihood that we will be able to recover our deferred tax assets. If recovery is not likely, we must increase our provision for taxes by recording a valuation allowance against the deferred tax assets that we estimate will not ultimately be recoverable. We believe that full valuation allowance should be provided against our deferred tax assets recorded on our consolidated balance sheets. Although we believe we have adequately reserved for our uncertain tax positions, no assurance can be given that the final tax outcome of these matters will not be different. We will adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will impact the provision for income taxes in the period in which such determination is made.

Recently Issued Accounting Standards

In October 2009, the FASB issued an update to ASC Topic 605-25, "Revenue Recognition- Multiple-Element Arrangements", that provides amendments to the criteria for separating consideration in multiple-deliverable arrangements: (i) Establishing a selling price hierarchy for determining the selling price of a deliverable; The selling price used for each deliverable will be based on vendor-specific objective evidence if available, third-party evidence if vendor-specific objective evidence is not available, or estimated selling price if neither vendor-specific objective evidence nor third-party evidence is available. A vendor will be required to determine its best estimate of selling price in a manner that is consistent with that used to determine the price to sell the deliverable on a standalone basis; (ii) Eliminating the residual method of allocation - requires that arrangement consideration be allocated at the inception of the arrangement to all deliverables using the relative selling price method, which allocates any discount in the overall arrangement proportionally to each deliverable based on its relative selling price. (iii) Requiring expanded disclosures of qualitative and quantitative information regarding application of the multiple-deliverable revenue arrangement guidance. The mandatory adoption date for this update to ASC 605-25 is on January 1, 2011. We may elect to adopt the provisions prospectively to new or materially modified arrangements beginning on the effective date or retrospectively for all periods presented. We are currently evaluating the impact on our consolidated results of operations and financial condition.

Results of Operations

Selected Financial Data

The following discussion and analysis is based on and should be read in conjunction with our audited consolidated financial statements, including the related notes, contained in "Item 18 – Financial Statements" and the other financial information appearing elsewhere in this annual report.

	Year ended December 31,		
	2007	2008	2009
	(US$ in thousands, except share and per share data)		
Consolidated Statements of Operations Data			
Revenues	$ 180	$ 338	$ 250
Cost of revenues	-	7	-
Research and development expenses	9,740	9,289	5,995
Less - governmental and other grants	(1,354)	(544)	(944)
Research and development expenses, net	8,386	8,745	5,051
Marketing and business development expenses	1,324	996	681
General and administrative expenses	2,930	3,502	2,147
Total operating expenses *	12,640	13,243	7,879
Operating loss	(12,460)	(12,912)	(7,629)
Financial income, net	868	348	65
Other income, net	134	53	3,721
Loss before taxes on income	(11,458)	(12,511)	(3,843)
Taxes on income	32	-	-
Loss from continuing operations	(11,490)	(12,511)	(3,843)
Gain (loss) from discontinued operations	(624)	(16)	12
Net loss	$ (12,114)	$ (12,527)	$ (3,831)
Basic and diluted net loss per ordinary share from continuing operations	$ (0.41)	$ (0.44)	$ (0.13)
Basic and diluted net loss per ordinary share from discontinued operations	$ (0.02)	$ -	$ -
Basic and diluted net loss per ordinary share	$ (0.43)	$ (0.44)	$ (0.13)
Weighted average number of ordinary shares used in computing basic and diluted net loss per share	28,266,273	28,434,946	28,608,317

(*) Includes stock based compensation – see Note 12 of our 2009 consolidated financial statements.

	As of December 31,		
	2007	2008	2009
	(US$ in thousands)		
Consolidated Balance Sheet Data:			
Cash and cash equivalents, short-term deposits, marketable securities, restricted cash and receivables on account of shares	$15,200	$7,481	$23,590
Investment in Evogene	510	3,858	3,898
Long-term deposits and marketable securities	2,080	-	-
Trade receivables and other accounts receivable	990	768	720
Assets related to discontinued operations	54	-	-
Total assets	21,666	14,244	30,185
Accumulated deficit	(144,926)	(157,453)	(161,284)
Total shareholders' equity	17,285	10,003	27,398

Years Ended December 31, 2009 and 2008

Revenues. Revenues decreased by 26% from approximately $338,000 in 2008 to approximately $250,000 in 2009. The decrease in revenues was primarily due to license fees related to the extension of the LEADS license agreement with Evogene which was recognized in full in 2008. Only in 2007, did we begin to recognize revenues based on the business model implemented in 2004, which revenues remain insignificant. Revenues based on such business model were $40,000 and $250,000 for the years 2008 and 2009, respectively. This increase is due to the fact that during these two years, we met all of the conditions required to recognize certain revenue from our existing collaborations, mainly in 2009.

Research and Development Expenses, Net. Research and development expenses, net decreased by 42%, to approximately $5.1 million for 2009 from approximately $8.7 million for 2008. The decrease in our research and development expenses, net, was primarily due to a restructuring which took place in November 2008 and which was intended to reduce our operating costs and cash burn. Also, governmental and other research and development grants that we received and which are subtracted from research and development expenses when calculating research and development expenses, net, increased in 2009 compared with 2008. Research and development expenses, net, as a percentage of total operating expenses, decreased from 66% in 2008 to 64% in 2009.

Research and development expenses, decreased by 35%, to approximately $6.0 million for 2009 from approximately $9.3 million in 2008. The decrease was due to the November 2008 restructuring, the major portion of which was reflected in decreased payroll expenses and totaled approximately $2.2 million of reduced expenses (including stock based compensation).

Marketing and Business Development Expenses. Marketing and business development expenses decreased by 32% to approximately $681,000 in 2009 from approximately $996,000 for 2008. This decrease was due to a reduction in the number of our personnel and related expenses following the November 2008 restructuring and the suspension of Compugen USA Inc. operations in January 2009. Marketing and business development expenses, as a percentage of total operating expenses, increased from 7.5% in 2008 to 8.6% in 2009.

General and Administrative Expenses. General and administrative expenses decreased by 39% to approximately $2.1 million for 2009 from approximately $3.5 million for 2008. This decrease was due to a reduction in the number of our personnel and related expenses following the November 2008 restructuring. The major decrease was under payroll expenses and totaled approximately $873,000 (including stock based compensation). General and administrative expenses, as a percentage of total operating expenses, increased from 26% in 2008 to 27% in 2009.

Financial Income, Net. Financial income, net, decreased by 81% to approximately $65,000 for 2009, from approximately $348,000 for 2008. This decrease was primarily due to lower cash balances, lower interest rates on deposits and marketable securities and the effect of changes in currency rates

Other Income. Other income, net, increased to $3.7 million in 2009 compared to $53,000 in 2008. This increase was due to realized gain derived from the sale of a portion of our holdings of Evogene ordinary shares.

Years Ended December 31, 2008 and 2007

Revenues. Revenues increased by 88% from approximately $180,000 in 2007 to approximately $338,000 in 2008. The increase in revenues was primarily due to license fees related to the extension of the LEADS license agreement with Evogene. In 2007, we began to recognize revenues based on the new business model which we began to implement in 2004. Revenues based on the new business model were $40,000 and $180,000 for the years 2008 and 2007, respectively. This decrease in 2008 was due to the fact that we had not yet met all of the conditions required to recognize certain revenue from our existing collaborations.

Research and Development Expenses, Net. Research and development expenses, net increased by 4%, to approximately $8.7 million for 2008 from approximately $8.4 million for 2007. The increase in our research and development expenses, net, was primarily due to the decrease in governmental and other research and development grants that we received Research and development expenses, net, as a percentage of total operating expenses, remained 66% in both 2007 and 2008.

Research and development expenses, decreased by 4%, to approximately $9.3 million for 2008 from approximately $9.7 million for 2007. The decrease in our research and development expenses was primarily due to a decrease in research and development payroll expenses of approximately $420,000.

Marketing and Business Development Expenses. Marketing and business development expenses decreased by 25% to

approximately $996,000 for 2008 from approximately $1.3 million for 2007. This decrease was due to a reduction in the number of our personnel and related expenses. Selling and marketing expenses, as a percentage of total operating expenses, decreased from 10.5% in 2007 to 7.5% in 2008.

General and Administrative Expenses. General and administrative expenses increased by 20% to approximately $3.5 million for 2008 from approximately $2.9 million for 2007. This was primarily due to an increase of approximately $132,000 of stock based compensation expenses in 2008 compared to 2007 and approximately $163,000 of accrued compensation expenses as a result of the termination of an executive. General and administrative expenses, as a percentage of total operating expenses, increased from 23% in 2007 to 26% in 2008.

Financial Income, Net. Financial income, net, decreased by 60% to approximately $348,000 for 2008, from approximately $868,000 for 2007. This decrease was primarily due to a decrease of cash and cash related account balances, and to lower interest rates on deposits and marketable securities.

Governmental Policies that Materially Affected or Could Materially Affect Our Operations

In July 2009, the Israeli Parliament (the Knesset) passed the Economic Efficiency Law (Amended Legislation for Implementing the Economic Plan for 2009 and 2010), 2009, which prescribes, among other things, an additional gradual reduction in Israeli corporate tax rate starting from 2011 to the following tax rates: 2011 - 24%, 2012 - 23%, 2013 - 22%, 2014 - 21%, 2015 - 20%, 2016 and thereafter - 18%. . However, several investment programs at our facility in Tel Aviv have been granted Approved Enterprise or Privileged Enterprise status under which we are eligible for a reduced rate of corporate tax under the Law for the Encouragement of Capital Investments, 1959. Subject to compliance with applicable requirements, the portion of our profits that may be derived from the Approved Enterprise or Privileged Enterprise programs or Privileged Enterprise will be tax-exempt for a period of two years commencing in the first year in which we generate taxable income from the applicable Approved Enterprise or Privileged Enterprise. The portion of our profits that may be derived from our Approved Enterprise or Privileged Enterprise programs will be subject, for an additional period of five or eight years, to reduced corporate tax rates of between 10% and 25%. The tax rate within the range of 10% and 25% that may actually become payable is a function of the percentage of non-Israeli investors holding our ordinary shares. These reduced corporate tax rates will cease to apply upon the expiry of the earlier of twelve years from the time at which we attain a prescribed level of investment in our Approved Enterprise or Privileged Enterprise (known as "commencement of production") or 14 years from the date on which we received approval for an Approved Enterprise or Privileged Enterprise. The period of tax benefits with respect to our Approved Enterprise or Privileged Enterprise programs has not yet commenced, because we have not yet generated any taxable income. These benefits should result in income recognized by us being tax exempt or taxed at a lower rate for a specified period of time after we begin to report taxable income and exhaust any net operating loss carry-forwards. However, these benefits may not be applied to reduce the U.S. federal tax rate for any income that our U.S. subsidiary may generate. There can be no assurance that such tax benefits will continue in the future at their current levels, if at all.

As of December 31, 2009, we had not generated any taxable income. As of December 31, 2009, our net operating loss carry-forwards for Israeli tax purposes amounted to approximately $111 million. Under Israeli law, these net operating losses may be carried forward indefinitely and offset against certain future taxable income.

At December 31, 2009, the net operating loss carry-forwards of our U.S. subsidiary for federal income tax purposes amounted to approximately $15 million. These losses are available to offset any future U.S. taxable income of our U.S. subsidiary and will expire between the years 2018 and 2029.

Use of our U.S. net operating losses may be subject to substantial annual limitation due to the "change in ownership" provisions of the Internal Revenue Code of 1986 and similar state provisions. The annual limitation may result in the expiration of net operating losses before utilization.

For a description of Israel government policies that affect our research and development expenses, and the financing of our research and development, see "Research and Development, Patents and Licenses; Research and Development Grants" in this Item 5 below.

Liquidity and Capital Resources

In 2009, our sources of cash came from:

- Funds remaining from our IPO on Nasdaq in August 2000

- Cash generated from the sale and issuance of ordinary shares in an "at the market" offering on Nasdaq during the fourth quarter of 2009
- Proceeds from sale of a portion of our holdings in Evogene's ordinary shares
- Proceeds generated from collaborative research agreements
- Governmental and other grants
- The exercise of employee stock options

We used these funds primarily to finance our business operations.

Net Cash Used in Operating Activities

Net cash used in operating activities was approximately $8.0 million in 2007, approximately $10.0 million in 2008 and approximately $7.5 million in 2009. These amounts were used to fund our net losses for these periods, adjusted for non-cash expenses and changes in operating assets and liabilities including compensation relating to stock options issued to employees. The sources of cash that we used to fund our activities through 2009 were the cash held in our bank account, proceeds generated from collaborative research agreements, governmental and other grants that we received, proceeds from sale of a portion of our holdings in Evogene's ordinary shares, cash generated from the sale and issuance of ordinary shares in an "at the market" offering on Nasdaq during the fourth quarter of 2009 and the exercise of options. We expect that our sources of cash for 2010 will be cash held in our bank account, proceeds generated from collaborative research agreements, governmental and other grants that we will receive, and exercise of options.

Net Cash Provided By Investing Activities

Net cash provided by investing activities consists mostly of proceeds from redemption of deposits, maturities of marketable securities, proceeds from the sale of a portion of our investment in Evogene and proceeds from sale of property and equipment, net of investment in bank deposits, net of purchase of marketable securities and net of purchases of property and equipment. Net cash generated by investing activities was approximately $3.3 million in 2007, approximately $13.1 million in 2008 and approximately $5.7 million in 2009. The decrease in net cash provided by investing activities in 2009 compared to 2008 was mainly attributable to proceeds from decreased redemptions of deposits and marketable securities.

Net Cash Provided by Financing Activities

Our net cash provided by financing activities was approximately $295,000 in 2007, approximately $295,000 in 2008 and approximately $12.2 million in 2009. The sources of cash provided by financing activities in 2009 were proceeds that we received from the sale and issuance of shares at market under the controlled equity offering through Cantor Fitzgerald & Co. ("Cantor") and from the issuance of ordinary shares as result of the exercise of stock options by employees.

In October 2009, we entered into a sales agreement with Cantor relating to our ordinary shares under which we were able to offer and sell an aggregate of up to 6 million of our ordinary shares, nominal value NIS 0.01 per share, from time to time through Cantor, as our sales agent, in accordance with the terms of such sales agreement, provided that gross proceeds from all sales made pursuant to the sales agreement not exceed $20 million in the aggregate as per our effective shelf registration filed with the Securities and Exchange Commission on Form F-3 (File No. 333-161241). On December 30, 2009, we announced that we had raised gross proceeds of $20 million, completing in full, the controlled equity offering facility. Under this facility, a total of approximately 4.1 million ordinary shares were sold at a weighted average price of approximately $4.91 per share. These shares were sold in the open market at prevailing prices during the period from November 13, 2009 to December 29, 2009. After sales commissions and estimated offering expenses, Compugen realized net proceeds of approximately $19.1 million of which $7.8 million were received at the beginning of 2010.

Sales of our ordinary shares under the registration statement and the accompanying prospectus were made in sales deemed to be "at-the-market" equity offerings as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made directly on or through Nasdaq, the principal trading market for our ordinary shares, sales made to or through a market maker other than on an exchange or otherwise, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or any other method permitted by law.

Cantor received compensation at a fixed commission rate ranging between 3.0% to 5.0% of gross sales in connection with the sale of our ordinary shares on our behalf.

Net Liquidity

Liquidity refers to the liquid financial assets we have available to fund our business operations and pay for near term future obligations. These liquid financial assets mostly consist of cash and cash equivalents as well as short-term deposits and marketable securities. As of December 31, 2009, with the inclusion of the remaining receivables on account of the equity offering completed in late December 2009, we had total cash and cash equivalents and short term deposits of approximately $23.4 million, not including the market value of the 1,150,000 shares of Evogene ordinary shares owned by the Company. We believe that our existing cash and cash equivalents, and short-term deposits will be sufficient to fund our operations for at least the next twelve months.

The debt and equity markets have been extremely difficult in the past two years, particularly since the dramatic downturn in the global financial sector. It is unclear whether, and the extent to which, equity and debt resources can continue to be accessed by us in the near future. Should we be required to raise necessary funds, we cannot be certain that these funds would be furnished on acceptable terms. Any equity financing would likely materially dilute the interests of any current shareholder.

Research and Development, Patents and Licenses

We invest heavily in research and development. Research and development expenses, net, were our major operating expenses, representing approximately 65% of the total operating expenses for each of 2007, 2008 and 2009. Our research and development expenses, net, were approximately $5.1 million in 2009, compared with $8.7 million in 2008 and compared with $8.4 million in 2007. As of December 31, 2009, 26 of our employees were engaged in research and development on a full-time basis. This represents approximately 70% of our entire work force**.**

We focus our research efforts on the development of our discovery platforms and related technologies, and the discovery and validation of our therapeutic proteins and diagnostic biomarker product candidates. We expect that in 2010 our research and development expenses net will continue to be our major operating expense, representing more than 65% of our total operating expenses.

We believe that our future success will depend, in large part on our ability to continue to expand our inventory of proprietary algorithms, predictive models and discovery platforms which provide opportunities for the discovery of promising therapeutic and diagnostic product candidates by us and pursuant to "discovery on demand" collaborations.

Research and Development Grants

We participate in programs offered by the Office of the Chief Scientist under the Industry and Trade Ministry of Israel ("OCS") that supports research and development activities, by the Israel-U.S. Binational Industrial Research and Development Foundation ("BIRD") and by the European Community, under the European Union's 6th Framework Program ("European Union"). We received or may receive grants and other forms of consideration from the OCS, BIRD and European Union of approximately $1.4 million in 2007, approximately $544,000 in 2008 and approximately $944,000 in 2009. We have applied for additional grants from the OCS for research, technological development and demonstration activities for 2010.

The Office of the Chief Scientist

We received or may receive grants from the OCS for several projects. Under the terms of these grants, we will be required to pay royalties ranging between 3% to 5% of the net sales of products developed from the OCS-funded projects, beginning with the commencement of receipt of revenue with respect to such products and ending when 100% of the dollar value of the grant is repaid (100% plus LIBOR interest applicable to grants received on or after January 1, 1999). As of December 31, 2009, our contingent obligation for royalties, based on royalty-bearing government grants, net of royalties already paid, totaled approximately $6.1 million payable out of future net sales of products that were developed under OCS -funded projects.

Israeli law requires that the manufacture of products developed with government grants will be carried out in Israel, unless the OCS provides its approval to the contrary. Following legislative changes to Israeli legislation in 2005, this approval, if provided, is generally conditioned on an increase in the total amount to be repaid to the OCS, to up to 300% of the amount of funds granted. The specific increase within this ceiling would depend on the extent of the manufacturing to be conducted outside of Israel. Alternatively, the restriction on manufacturing outside of Israel shall not apply to the extent that plans to manufacture were disclosed when filing the application for funding (and provided the application was approved

based on the information disclosed in the application). We believe that this restriction does not apply to the commercialization through licensing of product candidates that we develop by using or based on our OCS-funded technologies or discoveries. In such circumstances, the OCS takes into account, among other considerations, the proposal that OCS-funded projects will have an overseas manufacturing component. Transfer of OCS-funded technologies outside of Israel is prohibited, unless conducted in accordance with the restrictions set forth under Israeli law. Israeli law further specifies that both the transfer of know-how as well as the transfer of intellectual property rights in such know-how are subject to the same restrictions. Therefore, our flexibility in commercializing some of our technologies or discoveries may be reduced.

Binational Industrial Research and Development Foundation (BIRD)

In 2005 we entered into a tripartite cooperation and project funding agreement with OCD and BIRD based on BIRD's standard terms and conditions. The term of the funded collaborative project was four years. BIRD's standard terms and conditions require its grantees to repay 100% of the grant monies, provided that repayment is made within the first year following expiry of the term of the project. For every year of delay in these repayments, the amounts to be repaid incrementally increase up to an amount of 150% in the fifth year following expiry of the term of the project. All amounts to be repaid to BIRD are subject to generating revenue from commercializing the funded project and linked to the U.S. consumer price index.

The Governments of Israel and of the United States are each entitled to a non-exclusive, royalty-free license to make and use any products generated from the funded project. Otherwise, neither we nor OCD are subject to any restrictions relating to the ownership or commercialization of the intellectual property and products generated from the funded collaborative project.

As of December 31, 2009, our contingent obligation for royalties, based on royalty-bearing BIRD grant, totaled approximately $500,000 payable out of future net sales of products that may be developed under the BIRD-funded project.

The European Union's 6th Framework Program

In 2005 we joined two research consortia under the European Union's 6th Framework Program, which is a program based on the treaty establishing the European Union, with the aim of promoting research and technology among the European Community members.

We were the appointed coordinator of one of these research consortia, which means that we were the consortium's primary contact with the European Community for the purpose of managing the consortium's progress. This included a responsibility to distribute the research grant monies to the consortium members and to provide to the European Community reports describing the consortium's progress of the funded research.

The terms of the grant from the European Community do not require us to repay the grant monies that we received, unless we or any of our consortium members default in our obligations such as carrying out the research that we undertook to perform, or in reporting the progress of the research. As of December 31, 2009, the research terms under both of these agreements were completed.

Trend Information

Trend towards consolidation

There is a trend towards consolidation in the pharmaceutical, diagnostic and biotechnology industries, which may negatively affect our ability to enter into agreements and may cause us to lose existing licensees or collaborators as a result of such consolidation. This trend often involves larger companies acquiring smaller companies, and this may result in the larger companies having greater financial resources and technological capabilities. This trend towards consolidation in the pharmaceutical diagnostic and biotechnology industries may also result in there being fewer potential companies to license our products and services.

Trend towards reduction of in-house research and development programs within major pharmaceutical companies.

Recently, a number of major pharmaceutical companies have announced cutbacks in their in-house research and development programs. The effects of these cutbacks on our business opportunities could be positive or negative, and are likely to vary on a company by company basis.

Trend towards reliance by major pharmaceutical companies on smaller company's product candidates to support their pipelines.

There appears to be a trend towards larger companies relying or smaller companies' product candidates. However, usually applies to product candidates that have reached a further stage of development than our candidates. We believe that pharmaceutical and biotechnological companies are becoming more open to in-licensing product candidates at earlier stages of development, including at pre-clinical stages. As a result, there may be more interest in entering into agreements with us for further development and commercialization of our early stage product candidates.

However, if this is not correct we may be required to invest a substantial amount of money and other resources to advance each of our product candidates prior to licensing, without assurance that any such product candidates will be commercialized, and limiting the number of product candidates that we are able to so advance, while reducing resources available for our discovery activities, due to resource constraints.

If, consistent with our strategy for commercialization of our diagnostic and therapeutic product candidates, we are successful in commercializing our product candidates at an early stage of development, our licensees may propose terms that we may not consider commercially desirable and the consideration that we may receive for each individual product may be relatively low. The consideration that we would expect to receive for commercializing our product candidates increases commensurately with the number of such products commercialized and the stage of development that we attain for them. Furthermore, considerations regarding our willingness to advance the product candidate at our risk would likely be of much less importance in "discovery on demand" collaborations.

Off-Balance Sheet Arrangements

We are not a party to any material off-balance-sheet arrangements.

Tabular Disclosure of Contractual Obligations

The table below summarizes our contractual obligations as of December 31, 2009, and should be read together with the accompanying comments that follow.

	Payments due by period (US$ in thousands)			
	Total	**Less than 1 year**	**1-3 years**	**3-5 years**
Operating Lease Obligations	$1,121	$512	$609	-
Accrued Severance Pay Reflected on our Balance Sheet	$1,317	$-	-	$1,317
Unrecognized Tax Benefit	$58	$58	-	-
Total	$2,496	$570	$609	$1,317

The above table does not include royalties that we may be required to pay to the OCS or BIRD. For more information, see "Research and Development, Patents and Licenses" in this Item 5. We are unable to reasonably estimate the time and the amounts that we will eventually be required to pay to the OCS and BIRD, if at all, since these amounts and times depend on our ability to sell products based on the OCS and BIRD-funded technologies and the timing of any such sales.

The above table also does not include contingent contractual obligations or commitments that may crystallize in the future, such as contractual undertakings to pay royalties subject to certain conditions occurring.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

Directors and Senior Management

The following table sets forth information with respect to our directors and executive officers as of March 1, 2010:

Name	Age	Positions
Prof. Yair Aharonowitz	69	Director[(1)]
Prof. Ruth Arnon	75	Director
Martin S. Gerstel	68	Chairman of the Board
Dov Hershberg	70	Director
Alex Kotzer	63	Director
Arie Ovadia, Ph.D	69	Director[(1)]
Prof. Joshua Shemer	61	Director[(1)]
Anat Cohen-Dayag, Ph.D	43	President and Chief Executive Officer
Dikla Czaczkes Axselbrad	36	Chief Financial Officer
Eli Zangvil, M.D.	46	Vice President, Business Development
Dorit Amitay	42	Vice President, Human Resources
Zurit Levine	42	Vice President, Research and Development

[(1)] Qualifies as an external director pursuant to the Israeli Companies Law

Yair Aharonowitz, Ph.D. joined Compugen's board of directors as an external director in July 2007. He is a Professor (Emeritus) of Microbiology and Biotechnology at Tel Aviv University (TAU). He was a visiting scientist at Oxford University, an Alberta Heritage Fellow at the University of Alberta, Edmonton, and a visiting professor at the Karolinska Institute and at the University of British Columbia. Professor Aharonowitz's research interests include the molecular genetics and biosynthesis of antibiotics, molecular biology of microbial pathogens and the development of new targets for new antibiotics. He served as TAU Vice President and Dean for R&D, Chairman of the Department of Microbiology and Biotechnology and Chairman of the Institute of Biotechnology. He served as a member of the TAU Executive Council and is a member of the TAU Board of Governors. He served as the Chairman of Ramot Fund for Applied Research, as a member of TAU committee for strategic planning, on the TAU patent committee; he was a member of the National Committee for Biotechnology. He is a Fellow of the American Academy of Microbiology and a member of the Israeli Society of Microbiology.

Prof. Ruth Arnon joined Compugen's board of directors in May 2007. Formerly the Vice-President of the Weizmann Institute of Science (1988-1997), she is a noted immunologist, having joined the Institute in 1960. She served as Head of the Department of Chemical Immunology, Dean of the Faculty of Biology and Director of the Institute's MacArthur Center for Molecular Biology of Tropical Diseases. Prof. Arnon has made significant contributions to the fields of vaccine development, cancer research and to the study of parasitic diseases. Along with Prof. Michael Sela, she developed Copaxone® a drug for the treatment of multiple sclerosis which is presently marketed worldwide. Prof. Arnon is a member of the Israel Academy of Sciences and presently serves as its Vice President. She is an elected member of the European Molecular Biology Organization, served as President of the European Federation of Immunological Societies and as Secretary-General of the International Union of Immunological Societies. Her awards include the Robert Koch Prize in Medical Sciences, Spain's Jiminez Diaz Memorial Prize, France's Legion of Honor, the Hadassah World Organization's Women of Distinction Award, the Wolf Prize for Medicine, the Rothschild Prize for Biology, the Israel Prize and she received an Honorary Doctorate from Ben-Gurion University. Prof. Arnon is the Advisor for Science to the President of Israel and the incumbent of the Paul Ehrlich Chair in Immunochemistry.

Martin S. Gerstel has served as Compugen's Chairman of the Board of Directors since 1997, other than from January 2009 to March 2010, during which time he served as either CEO or co-CEO and, in both bases, as a member of the Board of Directors. Prior to Compugen, Mr. Gerstel was co-chairman and CEO of ALZA Corporation, which he helped found in 1968. Mr. Gerstel is the Chairman of Evogene Ltd., Keddem Bioscience, Mada Ltd., the co-founder and co-chairman of Itamar Medical, and serves as a director of Yissum Ltd., Yeda Ltd. and the U.S. Foundation for the National Medals of

Science and Technology. He is a member of the Board of Governors and the Executive Committee of the Weizmann Institute of Science and the Board of Governors of The Hebrew University of Jerusalem, and is an advisor to the Burrill Life Science Funds and the board of the Israel-U.S. Binational Industrial Research and Development ("BIRD") Foundation. Mr. Gerstel holds a B.S. from Yale University and an MBA from Stanford University.

Dov Hershberg was appointed as a member of the board of directors and the Chairman of the Board on February 9, 2009, prior to which he served as a consultant to the board of directors and Assistant Chief Executive Officer. Mr. Hershberg ceased serving as Chairman of the Board in February 2010. Mr. Hershberg managed the BIRD Foundation for nine years, until mid 2006. He is currently a founder and executive director of Powermat, a wireless electricity company and serves on the advisory board of the Merage Foundation. Prior to joining BIRD, Mr. Hershberg held various senior management positions in software development, marketing and sales. He was the founder and CEO, with colleagues from Stanford University, of Molecular Applications Group which created software in biomedical research. He spent eleven years at Digital Equipment Corporation in various senior management positions in product development, marketing and sales and worked as a mathematician in the Israeli Aircraft Industry. Mr. Hershberg holds graduate degrees in Mathematics, from the Hebrew University in Jerusalem, Israel and in Applied Mathematics and Operations Research from Columbia University in New York City.

Alex Kotzer joined Compugen in September 2005 and served until December 2008 as President and Chief Executive Officer and a director. Since retiring as President and CEO, Mr. Kotzer has remained a member of the board of directors. He recently joined Regenera Pharma as CEO and Chairman of the Board. Prior to joining Compugen, he served for twelve years at Serono (currently Merck Serono, a global biotechnology leader, headquartered in Switzerland. During his tenure at Serono, Mr. Kotzer held several senior positions, most recently as Vice President of Biotechnology Manufacturing. Previously, Mr. Kotzer was President and Chief Executive Officer of InterPharm, Serono's Israeli affiliate. Before joining Serono, he held a variety of managerial positions in the food and chemical industries. Mr. Kotzer received his B.Sc. in Chemical Engineering from the Technion, Israel Institute of Technology, of Haifa, Israel.

Arie Ovadia, Ph.D. joined Compugen's board of directors as an external director in July 2007. He advises major Israeli companies on finance, accounting and valuations, and is a member of the board of directors of several corporations, including Israel Discount Bank, Strauss Ltd., Israel Petrochemical Industries, ViryaNet and Elron Electronic Industries Ltd. He has taught at New York University, Temple University and, in Israel, at Tel Aviv and Bradford Universities. Dr. Ovadia served as a member of the Israeli Accounting Board, and is a 14-year member of the Israel Securities Authority. Dr. Ovadia holds an undergraduate degree and an MBA from Tel Aviv University, and earned his Ph.D. in economics from the Wharton School at the University of Pennsylvania.

Prof. Joshua Shemer joined Compugen's board of directors as an external director in July 2007. He is Full Professor of Medicine at the Tel Aviv University and is currently the CEO of Steba Biotech N.V. In addition he is a member of the Board of Directors of Maccabi Healthcare Services and Chairman of Assuta Medical Centers. Prof. Shemer is an Associate Editor at IMAJ and Harefuah, and a member of the Editorial Board of the International Journal of Technology Assessment in Health Care. He is Director of the Executive Masters Program in Health Sciences at the Multi-disciplinary Program for Emergency & Disaster Management and teaches Medical Technology Management at the Faculty of Business Administration at Tel Aviv University. He was a member and former chairman of the National Public Committee for Updating the National List of Health Services in Israel and the National Council for Trauma of the Israeli Ministry of Health. Most recently, Prof. Shemer was the Director-General of Maccabi Healthcare Services. Prof. Shemer was formerly Director-General of the Ministry of Health and Surgeon General of the Israel Defense Forces Medical Corps. He is a graduate of the Hebrew University and Hadassah School of Medicine and Board certified in Internal Medicine in Israel.

Anat Cohen-Dayag, Ph.D. joined Compugen in 2002 as Director of Diagnostics, a position she held until 2005 at which time she became Vice President Diagnostic Biomarkers, a position she held until January 2007. From January 2007 until November 2008, Dr. Cohen-Dayag served as Compugen's Vice President, Biomarkers and Drug Targets, at which point she was appointed Vice President, Research and Development. In June 2009, Dr. Cohen-Dayag was appointed, together with Mr. Martin Gerstel, as co-Chief Executive Officer of Compugen. In February 2010, upon Mr. Gerstel's election as Chairman of the Board of Directors, Dr. Dayag was appointed as Compugen's President and CEO. Prior to joining Compugen, she was head of research and development and member of the Executive Management at Mindsense Biosystems Ltd. Prior to Mindsense Biosystems, Dr. Cohen-Dayag served as a scientist at the R&D department of Orgenic. Dr. Cohen-Dayag holds a B.Sc. in Biology from the Ben-Gurion University, Israel, and an M.S. in Chemical Immunology and a Ph.D. in Cellular Biology, both from the Weizmann Institute of Science, Israel.

Dikla Czaczkes Axselbrad joined Compugen in March 2002 as director of finance, a position she held until February 2007. In February 2008, she became Acting Chief Financial Officer and in August 2008, she assumed her current position as Chief Financial Officer. Prior to joining Compugen, Ms. Czaczkes Axselbrad was the chief financial officer at Packet Technologies Ltd, and before that an audit manager at Ernst & Young Israel. She holds an MBA in finance and a BA in

accounting and economics, both from Tel Aviv University; she is also a certified public accountant in Israel.

Eli Zangvil, M.D. joined Compugen in November 2006 as Vice President Business Development. He previously served as Chief Operating Officer of UltraShape headquartered in Tel-Aviv, Israel, and prior to that was Head of Medical Services of the Israeli Defence Force's Central Command where he held the rank of Colonel. Dr. Zangvil holds an M.D. from the Hebrew University of Jerusalem and specializes in internal medicine, and a Master's Degree in Health Administration from the Tel-Aviv University, Israel.

Dorit Amitay joined Compugen in 2000. She held several positions in Compugen's Human Resources division until 2006 at which time she was appointed as Compugen's Director of Human Resources. Prior to joining Compugen, she was a Placement Manager at an agency for recruitment and placement in the hi-tech industry**.** Ms. Amitay holds a BA from the Faculty of Humanities and Social Sciences and an MBA in Business Administration, both from the Ben-Gurion University, Israel. In addition, Ms. Amitay holds a Certificate in Group Facilitation from the Kibbutzim College of Education, Tel Aviv.

Zurit Levine, Ph.D. joined Compugen in 1999 and held several positions in Compugen's Research & Development. In 2004, she was appointed Director of Therapeutic Selection & Validation, which position she held until 2007 when she was appointed Director of Therapeutic Discovery. In 2009, she was appointed Executive Director of Research & Development. Dr. Levine holds a B.Sc. in Biology from the Tel Aviv University, Israel, In addition, she holds an M.Sc. in Biochemistry and a Ph.D. in Biochemistry, both from the Tel Aviv University, Israel**.**

Compensation

The aggregate compensation paid by us to all persons who served as directors or senior management for the year 2009 (12 persons) was approximately $1.1 million. This amount includes approximately $164,000 set aside or accrued to provide pension, severance, retirement or similar benefits.

During 2009, we granted a total of 910,000 options to purchase ordinary shares to our directors and senior management, as a group. These options are exercisable at a range of between $0.50 and $2.46 per share, and generally expire ten years after their respective dates of grant. As of December 31, 2009, there were a total of 2,903,189 outstanding options to purchase ordinary shares that were granted to our directors and senior management.

All non-management members of our board of directors are entitled to receive fees in connection with their participation in board meetings as well as meetings of committees of the board and are also eligible to receive options to purchase ordinary shares on an annual basis. The aggregate amount paid to all of our non-management directors for the year ended December 31, 2009 was approximately $78,000.

Approvals Required for Compensation to our Directors

Israeli Companies Law requires, among other requirements, that all payments of any type to directors be approved by the shareholders, subject to certain exceptions. Therefore, in accordance with these requirements, we determine our directors' compensation in the following manner:

- first, a proposal for compensation is submitted to our audit committee, which then reviews the proposal;
- second, provided that the audit committee approves the proposed compensation, the proposal is then submitted to our board of directors for review, except that a director who is the beneficiary of the proposed compensation does not participate in any discussion or voting with respect to such proposal;
- finally, if our board of directors approves the proposal, it must then submit its recommendation to our shareholders, which is usually done during our shareholders' annual general meeting; and
- the approval of a majority of our shareholders is required to implement any such compensation proposal.
- In addition, the compensation payable to external directors under the Israeli Companies Law is subject to certain further limitations.

Board Practices

Election of Directors and Terms of Office

Our board of directors consisted of seven members as at December 31, 2009, including our then chairman of the board (Dov Hershberg) and co-chief executive officer at that time (Martin Gerstel). Other than our three external directors, who are elected for a fixed term of three years, our directors are elected by an ordinary resolution at the annual general meeting

of our shareholders.

Professor Yair Aharonowitz, Dr. Arie Ovadia and Professor Joshua Shemer serve as external directors pursuant to the provisions of the Companies Law for a three-year term ending at the annual meeting to be held in 2010.

None of our directors or officers have any family relationship with any other director or officer.

None of our directors are entitled to receive any severance or similar benefits upon termination of his or her service.

Our Articles of Association permit us to maintain directors' and officers' liability insurance and to indemnify our directors and officers for actions performed on behalf of the Company, subject to specified limitations.

External and Independent Directors

The Companies Law requires Israeli companies with shares that have been offered to the public either in or outside of Israel to appoint at least two external directors. No person may be appointed as an external director if that person or that person's relative, partner, employer, any person to whom that person reports, directly or indirectly, or any entity under the person's control, has or had, on or within the two years preceding the date of that person's appointment to serve as an external director, had any affiliation with the company or any entity controlling, controlled by or under common control with the company. The term affiliation includes:

- an employment relationship;
- a business or professional relationship maintained on a regular basis;
- control; and
- service as an office holder.

No person may serve as an external director if that person's position or business activities create, or may create, a conflict of interest with that person's responsibilities as an external director or may otherwise interfere with his/her ability to serve as an external director. If, at the time external directors are to be appointed, all current members of the board of directors are of the same gender, then at least one external director must be of the other gender.

The Companies Law requires that at least one external director must have financial and accounting expertise and the other external directors must possess certain professional qualifications that are promulgated by regulations to the Companies Law. These regulations provide that external directors with financial and accounting expertise must possess a high level of understanding in accounting and business matters, to the extent that they are able to read and understand financial statements in depth and to facilitate a discussion regarding the manner in which financial data is presented. An external director with professional qualifications must have an academic degree in either economics, business administration, accounting, law, public administration, or he or she must have another academic degree, or must have completed other higher education studies related to the main business of the company, or he or she must have at least five years of experience in at least two of the following: (a) a senior position in the business administration of a corporation with a significant scope of business; (b) a senior position in the public service; or (c) a senior position relating to the company's main business. Each company's board of directors must determine each external director's qualifications based on his or her education, experience and skills regarding financial matters and knowledge of financial statements in accordance with the Companies Law and Israeli securities laws.

External directors are to be elected by a majority vote at a shareholders' meeting, provided that either:

- a majority of shares voted at the meeting, including at least one-third of the shares held by non-controlling shareholders voted at the meeting, vote in favor of election of the director; abstaining votes shall not be counted in this vote, or
- the total number of shares held by non-controlling shareholders voted against the election of the director does not exceed one percent of the aggregate voting rights in the company.

The initial term of an external director is three years and such term may be extended for one, and only one, additional three years' term.

External directors may be removed only by a court, upon determination that the external directors to be so removed ceased to meet the statutory qualifications for their appointment or if they violate their duty of loyalty to the company; or by the same percentage of shareholders, acting through a shareholders meeting, as is required for their election, or if the board of directors has determined that the external directors to be so removed ceased to meet the statutory qualifications for their

appointment or if they violate their duty of loyalty to the company. Such determination by the board of directors is to be made in the first meeting of the board of directors to be convened following learning of the said cessation or violation. Each committee of a company's board of directors must include at least one external director.

An external director is entitled to compensation as provided in regulations adopted under the Companies Law and is otherwise prohibited from receiving any other compensation, directly or indirectly, in connection with service provided as an external director or any other services to the company.

Professor Yair Aharonowitz, Dr. Arie Ovadia and Professor Joshua Shemer currently serve as our external directors under Israeli law and are among our independent directors under Nasdaq Stock Market Listing Rules. They all serve on our audit committee.

In addition to the requirements of the Companies Law as described above, since our shares are listed on the Nasdaq Capital Market, a majority of our directors must be independent (as defined by the Nasdaq Stock Market Listing Rules), and our audit committee must be comprised of at least three members, all of whom must be independent (subject to limited exceptions). We comply with such Nasdaq independence requirements, as four of the seven members of our board of directors-- consisting of Professor Yair Aharonowitz, Dr. Arie Ovadia, Professor Joshua Shemer and Professor Ruth Arnon-- have been determined by our board to meet the Nasdaq independence requirements, while, as described above, three of such directors (all of such four directors, except Professor Arnon) comprise our fully independent audit committee.

Audit Committee

We have an audit committee consisting of three independent directors, all of whom are financially literate and one of whom has accounting or related financial management expertise. The members of the audit committee are, Dr. Arie Ovadia, who serves as the chairman of our audit committee, Professor Yair Aharonowitz, and Professor Joshua Shemer. All of the members of our audit committee qualify as independent directors under the current Nasdaq Stock Market Listing Rules and as external directors under the Companies Law. The audit committee has adopted a charter.

The responsibilities of the audit committee include identifying irregularities in the management of the company's business and approving related party transactions as required by law. An audit committee must consist of at least three directors, including all of its external directors. The chairman of the board of directors, any director employed by or otherwise providing regular services to the company, and a controlling shareholder or any relative of a controlling shareholder, may not be a member of the audit committee. An audit committee may not approve an action or a transaction with a controlling shareholder, or with an office holder, unless at the time of approval two external directors are serving as members of the audit committee and at least one of the external directors was present at the meeting at which an approval was granted.

Other Committees

We do not have a nominating committee nor a compensation committee. Such functions are performed by the full board of directors. This practice is compliant with Israeli law.

Approval of Compensation to Our Officers

The Companies Law prescribes that, subject to certain exceptions, compensation to officers must be approved by a company’s board of directors. In accordance with Article 52(d) of our Articles of Association, our board of directors authorized and empowered our chief executive officer to appoint office holders and determine their terms of employment, without our board of directors’ approval (unless such office holders also serve as a members of our board of directors). Compensation for our officers who serve as members of our board of directors require the approval of our audit committee, the board of directors and, subject to certain exceptions, also the approval of our shareholders, as specified above.

Internal Auditor

Under the Companies Law, the board of directors must appoint an internal auditor, nominated by the audit committee. The role of the internal auditor is to examine, among other matters, whether the company's actions comply with the law and orderly business procedure. Under the Companies Law, the internal auditor may be an employee of the company but not an office holder, or an affiliate, or a relative of an office holder or affiliate, and he or she may not be the company's independent accountant or its representative. We comply with the requirement of the Companies Law relating to internal auditors. Our internal auditors examine whether our various activities comply with the law and orderly business procedure.

Our internal auditor, for 2009, Ezra Yehudah, of Ezra Yehuda Management Services Ltd., is not an employee, affiliate, office holder of the company, or affiliated with the company's auditors. He was appointed in 1999 and his appointment was confirmed and ratified by the board of directors on October 26, 2009. On February 8, 2010, our board of directors terminated the services of Ezra Yehudah and appointed Hila Barr of Brightman Almagor Zohar & Co., a member company of Deloitte Touche Tohmatsu, as Compugen's internal auditor. Hila Barr is not an employee, affiliate or office holder of the company, or affiliated with the company's auditors.

Employees

The following table sets out the number of our employees engaged in specified activities, by geographic location at the end of the fiscal years 2007, 2008 and 2009:

	December 31, 2009	December 31, 2008	December 31, 2007
Research & Development			
Israel	26	40	52
United Kingdom		1	
Administration, Accounting and Operations			
Israel	9	12	17
Sales, Marketing, Business Development and Support			
Israel	2	3	2
USA		1	1
Total	37	57	72

We and our Israeli employees are subject, by an extension order of the Israeli Ministry of Welfare, to a few provisions of collective bargaining agreements between the Histadrut, the General Federation of Labor Unions in Israel and the Coordination Bureau of Economic Organizations, including the Industrialists Associations. These provisions principally concern cost of living increases, recreation pay, travel expenses, vacation pay and other conditions of employment. We provide our employees with benefits and working conditions equal to or above the required minimum. Our employees are not represented by a labor union. We have written employment contracts with each of our employees, and we believe that our relations with our employees are good.

Share Ownership

Share Ownership by Directors and Senior Management

All of the persons listed above under the caption "Directors and Senior Management" own ordinary shares and/or options to purchase ordinary shares. Except as set forth in the table below, none of the directors or executive officers beneficially owns shares and/or options amounting to 1% or more of the outstanding ordinary shares. The following table sets forth certain information as of January 31, 2010, regarding the beneficial ownership by our directors and executive officers. All numbers quoted in the table are inclusive of options to purchase shares that are exercisable within 60 days after January 31, 2010.

Beneficial Owner	Amount Owned	Percent of Class
Martin S. Gerstel [(1)]	2,009,507	6.11%
Alex Kotzer [(2)]	511,762	1.56%
Anat Cohen-Dayag [(3)]	398,345	1.21%
All directors and senior management as a group [(4)] (12 persons)	3,621,329	11.01%

[(1)] Includes 550,000 shares held by Shomar Corporation, an affiliate of Mr. Martin S. Gerstel, 669,033 shares held by Merrill Lynch IRA for Martin Gerstel, of which Martin Gerstel is the beneficiary, 634,235 shares held in various brokerage accounts for the benefit of Martin Gerstel and 156,239 options (of the 500,000 options granted to Martin Gerstel during 2009) that are exercisable within 60 days after January 31, 2010.

[(2)] Consists of 487,500 options that are exercisable within 60 days after January 31, 2010 and 24,262 ordinary shares.

[(3)] Consists of 398,345 options that are exercisable within 60 days after January 31, 2010.

[(4)] Includes (i) a total of 2,919,614 shares and options that are beneficially owned by Martin S. Gerstel, Alex Kotzer and Anat Cohen-Dayag, as noted in the first three rows of the above table, (ii) 680,983 options that are beneficially owned by other officers and directors, and (iii) 20,732 ordinary shares held by other officers and directors.

Share Option Plans

We maintain one active share option plan for our and our subsidiaries' employees, directors and consultants. In addition to the discussion below, see Note 12 of our 2009 consolidated financial statements.

Our board of directors administers our share option plans and has the authority to designate all terms of the options granted under our plans including the grantees, exercise prices, grant dates, vesting schedules and expiration dates, which may be no more than ten years after the grant date. Options may not be granted with an exercise price of less than the fair market value of our ordinary shares on the date of grant, unless otherwise determined by our board of directors.

Compugen Share Option Plan (1998)

The Compugen Share Option Plan (1998) enabled granting options for up to an aggregate of 2,500,000 ordinary shares to our and our subsidiaries' employees, directors and consultants. No further options are being granted under this plan following an October 22, 2007 decision of the board of directors which resolved to cancel the then remaining "available for grant" options remaining under the 1998 Option Plan. As of December 31, 2009, there were no options to purchase ordinary shares remained outstanding and unexercised under the plan. Options to purchase 1,674,274 ordinary shares under the plan were previously exercised at a weighted average exercise price of approximately $1.56.

Compugen Share Option Plan (2000)

Under the Compugen Share Option Plan (2000), we may grant options for up to an aggregate of 10,191,511 ordinary shares to our and our subsidiaries' employees, directors and consultants. This total number automatically increases on January 1st of every year by the lesser of 1,500,000 shares or 4% of the total number of our then-outstanding options, or such lower amount as shall be determined by the board of directors. On February 8, 2010, the board of directors elected not to increase this number of options for 2010, thus the total number of options available for grant remains unchanged for 2010. If a grantee leaves his or her employment or other relationship with us, or if his or her relationship with us is terminated without cause, the term of his or her unexercised options will expire 90 days later, unless determined otherwise by the board of directors. As of December 31, 2009, options to purchase 5,670,997 ordinary shares at a weighted average exercise price of approximately $2.21 per share were outstanding (i.e., were granted but not canceled, expired or exercised). Options to purchase 1,099,526 ordinary shares under the plan have previously been exercised at a weighted average exercise price of approximately $3.30, and options to purchase 3,420,988 ordinary shares remain available for future grant as of December 31, 2009.

In 2003, the terms of this plan were modified and we adopted an addendum to this plan to comply with changes in the Israeli tax law relating to the taxation of incentive options to Israeli resident employees. This addendum does not affect grantees that are not residents of Israel.

Our board of directors has elected the "Capital Gains Track" (as defined in Section 102(b)(2) of the Israeli Income Tax

Ordinance (the "Ordinance")) for the grant of options to Israeli grantees. Generally, under the Capital Gains Track, the tax liability to a Grantee resulting from the grant and exercise of options will be postponed until the time that shares that are acquired upon the exercise of options will be sold or released from trust, subject to fulfillment of the requirements of Section 102 of the Ordinance. Entitlement to the benefits under the Capital Gains Track is contingent upon the trustee holding them and/or the shares issued upon their exercise on behalf of grantee of options for a period of at least 24 months from the time of grant. Under the Capital Gains Track, a fixed rate of 25% applies to gains that are realized from the sale of shares issued upon exercise of options (i.e., for sales proceeds in excess of the exercise price of the options, assuming that the exercise price is equal to the fair market value of the shares on the date of the award), and provided that the sale occurs after the required holding period.

If a grantee sells shares or releases them from trust prior to expiration of the required holding period, the grantee will be subject to income tax on his gains at a rate which is his or her marginal income tax rate (up to 46% in 2009 and up to 44% in 2010), as well as payment of associated health tax and national insurance payments. Additionally, in such circumstances, withholding requirements will apply and be carried out by the employing company in accordance with applicable laws, regulations and rules.

Neither we nor the grantee will be liable to pay social benefits payments in connection with the granting or exercise of options that are exercised under the Capital Gains Track mechanism, or upon the sale of the shares underlying such options or upon the release of such shares from the trust, provided that such sale or release occurs after the required holding period. However, if such sale or release occurs before expiry of the required holding period, for which our consent is required, both we and the grantee will bear each of our respective liability to pay social benefits payments.

We will not be entitled to a tax deduction for Israeli income tax purposes with respect to options granted under the Capital Gains Track.

Directors' Options

Grants to Non-Management Directors

On July 31, 2007, our shareholders approved the following grants to the non-management members of our board of directors, in addition to the cash consideration paid to such non-management directors: Each non-management director was granted options to purchase ordinary shares as follows:

(i) an initial grant to purchase 40,000 ordinary shares was granted to each non-management director on the following terms:
- (a) the options were to be granted as of the date of the shareholders' approval;
- (b) each option is exercisable for one ordinary share at an exercise price equal to the closing share price on the date of such grant;
- (c) the options shall vest as follows: (1) 10,000 options fully vested at time of grant; (2) 10,000 options will vest annually for a period of three years, starting from the first anniversary of the initial grant date; and
- (d) any and all other terms and conditions pertaining to the grant of the options shall be in accordance with, and subject to, the "Compugen Share Option Plan (2000)" and the Company's standard option agreement that were executed by each director and by the Company promptly after the date of the annual meeting of shareholders;

(ii) On each annual anniversary of the initial grant, an additional annual grant of options to purchase 10,000 ordinary shares to each non-management director then serving on the board of directors, with the following terms:
- (a) each option is exercisable for one ordinary share at an exercise price equal to the closing share price on the date of such additional grant;
- (b) the options shall vest as follows: 3,333 of the options shall vest on each of the first two anniversary dates of such grant and 3,334 on the third anniversary date; and
- (c) any and all other terms and conditions pertaining to the grant of the options shall be in accordance with, and subject to, the "Compugen Share Option Plan (2000)".

Notwithstanding (i) and (ii) above, all options granted to non-management directors shall be fully vested immediately upon the completion of one or more of the following events, whether by way of a consolidation, merger or reorganization of the Company or otherwise: (a) a sale of all or substantially all of Company's issued share capital or assets to any other company, entity, person or a group of persons, or (b) the acquisition of more than 50% of Company's equity or voting power by any shareholder or group of shareholders.

Notwithstanding the terms of the "Compugen Share Option Plan (2000)" all options granted above which shall be vested as of the date of termination of services by a non-management director to the Company, may be exercised within one year

after the cessation of his or her term as a director of the Company.

Grants to our current Chairman of the Board

On January 15, 2009, Mr. Gerstel provided Compugen with a letter irrevocably waiving his rights to options to purchase 750,000 shares that were granted to him in past years and were outstanding as of January 15, 2009.

On October 29, 2009, the shareholders of the Company approved (further to previous approvals of our audit committee and board of directors) the grant to Mr. Gerstel of 500,000 options under the general terms of the "Compugen Share Option Plan (2000)".

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

Major Shareholders

The following table sets forth certain information regarding beneficial ownership of our ordinary shares as of December 31, 2009 by each person who is known by us to own beneficially more than 5% of our outstanding ordinary shares. The voting rights of our major shareholders do not differ from the voting rights of other holders of our ordinary shares.

Beneficial Owner	Number of Ordinary Shares Beneficially Owned	Percent of Ownership
ClearBridge Advisors, LLC [1]	2,833,047	8.62%
Morgan Stanley [2]	2,133,966	6.49%
Martin Gerstel [3]	1,853,268	5.64%

[1] This disclosure is based on information disclosed by ClearBridge Advisors, LLC on Schedule 13G/A, filed with the SEC on February 12, 2010 reflecting holdings as of December 31, 2009.

[2] This disclosure is based on information disclosed by Morgan Stanley on Schedule 13G/A, filed with the SEC on February 12, 2010 reflecting shareholdings as of December 31, 2009.

[3] Includes 550,000 shares held by Shomar Corporation, an affiliate of Mr. Martin S. Gerstel, 718,333 shares held by Merrill Lynch IRA for Martin Gerstel, of which Martin Gerstel is the beneficiary and 534,235 shares held in various brokerage accounts for the benefit of Martin Gerstel. This disclosure is based on information provided by Martin Gerstel directly to the Company on March 4, 2010.

As of December 31, 2009, there were a total of 80 holders of record of our ordinary shares, of which 53 were registered with addresses in the United States. Such United States holders were, as of such date, the holders of record of approximately 99% of the outstanding ordinary shares.

Related Party Transactions

It is our policy to enter into transactions with related parties on terms that, on the whole, are no less favorable than those that would be available from unaffiliated parties. Based on our experience in the business in which we operate and the terms of our transactions with unaffiliated third parties, we believe that all of the transactions described below met our policy standards at the time they occurred.

Keddem Bioscience Ltd.

In 1999, we established a chemistry division to carry out a research program in which we integrated the disciplines of organic chemistry with physics and advanced computational technologies for the development of a method to substantially increase the predictability and success rates of small molecule drug discovery. On August 1, 2004, we transferred all of the assets and liabilities of this division to Keddem Bioscience Ltd., a wholly-owned subsidiary. In August 2007, we announced the suspension of Keddem's operations. In 2008, in order to continue to seek to maximize the value of Keddem's intellectual property, Compugen entered into a term sheet agreement with Mada Ltd., a newly formed company owned and managed by the former two co-CEOs of Keddem, under which Compugen will license the Keddem intellectual property to Mada in exchange for royalties on any future revenues and certain access rights to any developed technology. Mada intends to seek third party funding for the development of this intellectual property, but we can give no assurances that it will be successful in doing so.

For more information, see "Item 4. Information on the Company; Subsidiary; Keddem Bioscience."

Evogene Ltd.

As of December 31, 2009, Martin Gerstel, at such time our co-CEO and now our Chairman of the Board, held approximately 2.34 % of Evogene's issued and outstanding share capital (approximately 2.09% of Evogene's share capital, on a fully-diluted basis), and the power to vote approximately 2.7% of Evogene's share capital. All such Evogene shares were acquired by Mr. Gerstel for cash in either the 2006 private placement or the 2007 public offering, in each case, at the same price and on the same terms and conditions as other investors in such financing rounds. In addition, since December 19, 2004, Martin Gerstel has served as the chairman of Evogene's board of directors, and in such capacity has been granted options through December 31, 2008 for a total of 90,000 Evogene shares, at an average exercise price of $1.399.

On June 30, 2009, Compugen announced the private sale of 1,000,000 of its Evogene shares to a single purchaser. After this sale, Compugen holds 1,150,000 Evogene shares, with the ability to vote 3.9% of Evogene's share capital. For more information, see "Item 4. Information on the Company; Significant Investment; Evogene Ltd."

For more information, see also Note 1b and Note 16 of our 2009 consolidated financial statements.

Directors' Options

For a description of options granted to our directors, see "Item 6. Directors, Senior Management and Employees; Share Option Plans; Directors' Options."

ITEM 8. FINANCIAL INFORMATION

Consolidated Statements and Other Financial Information

Our consolidated financial statements are included on pages F-1 through F-27 of this annual report.

Legal Proceedings

Currently, we are not a party to any material pending legal proceedings. There are no legal proceedings pending or, to our knowledge, threatened against us or our subsidiaries and we are not involved in any legal proceedings that our management believes, individually or in the aggregate, would have a material adverse effect on our business, financial conditions or operating results.

Dividend Distributions

We have never paid any cash dividends on our ordinary shares, and we do not intend to pay cash dividends on our ordinary shares in the foreseeable future. Our current policy is to retain earnings for use in our business.

In the event that we decide to pay a cash dividend from income that is tax exempt under our Approved Enterprise status, we would be liable for corporate tax on the amount distributed at the rate of up to 25%, which would be in addition to the tax payable by the dividend payee. See Note 15 of our 2009 consolidated financial statements and "Item 10. Taxation." Cash dividends may be paid by an Israeli company only out of retained earnings as calculated under Israeli law. We currently have no retained earnings and do not expect to have any retained earnings in the foreseeable future.

Significant Changes

No significant changes have occurred since the date of the consolidated financial statements included in this annual report.

ITEM 9. THE OFFER AND LISTING

Markets and Share Price History

The principal trading market for our ordinary shares is now the Nasdaq Capital Market. Our shares were listed and traded on the Nasdaq Global Market since our initial public offering in August, 2000 until June 17, 2009. As of June 17,

2009, we received approval to transfer the trading of our shares to the Nasdaq Capital Market where they are listed and continue to be traded under the symbol "CGEN". Our shares have also been traded on the Tel Aviv Stock Market under the Hebrew symbol which is equivalent to "CGEN" since January 7, 2002. The following table sets forth, for the periods indicated, the high and low reported sales prices of the ordinary shares on Nasdaq and on the Tel Aviv Stock Exchange:

	Nasdaq		*TASE	
Last Six Calendar Months	**High**	**Low**	**High**	**Low**
February 2010	$4.820	$3.810	$4.840	$3.850
January 2010	$5.250	$3.800	$5.425	$3.808
December 2009	$5.860	$2.680	$6.064	$2.669
November 2009	$2.950	$2.300	$2.970	$2.387
October 2009	$3.340	$2.510	$3.360	$2.562
September 2009	$3.300	$2.700	$3.193	$2.659
Financial Quarters During the Past Two Full Fiscal Years				
Fourth Quarter 2009	$5.860	$2.300	$6.064	$2.387
Third Quarter 2009	$3.370	$1.730	$3.193	$1.670
Second Quarter 2009	$2.250	$0.630	$2.174	$0.640
First Quarter 2009	$1.000	$0.390	$0.793	$0.424
Fourth Quarter 2008	$1.820	$0.340	$1.768	$0.415
Third Quarter 2008	$2.700	$0.870	$2.508	$1.699
Second Quarter 2008	$2.590	$1.960	$2.514	$1.898
First Quarter 2008	$2.800	$1.600	$2.811	$1.613
Last Five Full Financial Years				
2009	$5.860	$0.390	$6.064	$0.424
2008	$2.800	$0.340	$2.811	$0.415
2007	$3.400	$1.560	$3.529	$1.641
2006	$5.220	$2.100	$5.304	$2.383
2005	$6.540	$2.460	$6.557	$2.578

*the currency in which our stock is traded on the Tel Aviv Stock Exchange is the New Israeli Shekel. The above dollar amounts represent a conversion from New Israeli Shekels to Dollar amounts in accordance with the Dollar - New Israeli Shekel conversion rate as of the relevant date of trade**.**

ITEM 10. ADDITIONAL INFORMATION

Memorandum and Articles of Association

Objects and Purposes of the Company

We are registered under the Companies Law as a public company under the name Compugen Ltd. and public company number 51-177-963-9. The objective stated in our Articles of Association is to engage in any lawful activity.

Powers of the Directors

Pursuant to the Companies Law and our Articles of Association, a director is not permitted to vote on a proposal, arrangement or contract in which he or she has a personal interest, subject to certain exceptions. Also, compensation payable to the directors requires the approval of our audit committee, board of directors, and, subject to certain exceptions, also the approval of our shareholders at a general meeting. The requirements for approval of certain transactions are set forth below in "Item 10. Additional Information; Memorandum and Articles of Association; Approval of Certain Transactions". The powers of our directors to enter into borrowing arrangements on our behalf are limited to the same extent as any other transaction by us.

Approval of Certain Transactions

The Companies Law codifies the fiduciary duties that office holders, including directors and executive officers, owe to a company. An office holder, as defined in the Companies Law, is a director, general manager, chief business manager, deputy general manager, vice general manager, other manager directly subordinate to the managing director or any other person assuming the responsibilities of any of the foregoing positions without regard to such person's title. An office holder's fiduciary duties consist of a duty of care and a duty of loyalty. The duty of loyalty includes avoiding any conflict of interest between the office holder's position in the company and discharging his or her duties in another position he or she holds or his or her personal affairs, avoiding any competition with the business of the company, avoiding exploitation of any business opportunity of the company in order to reap personal gain for himself or herself or for others, and revealing to the company any information and hand over any documents relating to the company's affairs which the office holder has received due to his or her position as an office holder. Each person listed in the table under "Directors and Senior Management", which is displayed under "Item 6. Directors, Senior Management and Employees; Directors and Senior Management", is one of our office holders. Under the Companies Law, all arrangements as to compensation of office holders who are not directors, require approval of the board of directors, or a committee thereof or of persons to whom such power is delegated. Arrangements regarding the compensation of directors also require audit committee and shareholder approval, with the exception of compensation to external directors. Arrangements regarding the compensation of non-external directors may also be exempted from the requirement of shareholders approval, provided that only certain amounts are payable thereto as specified in the regulations promulgated under the Companies Law, and that other provisions of such regulations are complied with, all as described in "Item 6. Directors and Senior Management; Compensation."

The Companies Law requires that an office holder promptly discloses any personal interest that he or she may have and all related material information known to him or her, in connection with any existing or proposed transaction by the company. The disclosure must be made to our board of directors and shareholders prior to the meeting at which the transaction is to be discussed. In addition, if the transaction is an extraordinary transaction, as defined under the Companies Law, the office holder (as well as any shareholder) must also disclose any personal interest held by the office holder's spouse, siblings, parents, grandparents, descendants, spouse's descendants and the spouses of any of the foregoing, or by any corporation in which the office holder is a five percent (5%) or greater shareholder, or holder of five percent (5%) or more of the voting power, or a director or general manager or in which he or she has the right to appoint at least one director or the general manager. An extraordinary transaction is defined as a transaction not in the ordinary course of business, not on market terms, or that is likely to have a material impact on the company's profitability, assets or liabilities.

In the case of a transaction which is not an extraordinary transaction, after the office holder complies with the above disclosure requirement, only board of directors' approval is required unless the Articles of Association of the company provide otherwise. A transaction must not be adverse to the company's interest. If the transaction is an extraordinary transaction, then, in addition to any approval required by the Articles of Association, the transaction must also be approved by the audit committee and/or by a meeting of the shareholders and by the board of directors. An office holder who has a personal interest in a matter that is considered at a meeting of the board of directors or the audit committee may not be present at this meeting or vote on this matter, subject to certain exceptions.

The Companies Law applies the same disclosure requirements to a controlling shareholder of a public company, which is defined as a shareholder who has the ability to direct the activities of a company, other than in circumstances where this power derives solely from the shareholder's position on the board of directors or any other position with the company, and includes a shareholder that holds 25% or more of the voting rights if no other shareholder owns more than 50% of the voting rights in the company. Extraordinary transactions with a controlling shareholder or in which a controlling shareholder has a personal interest, and the terms of compensation of a controlling shareholder who is an office holder, require the approval of the audit committee, the board of directors and the shareholders of the company.

The shareholders majority approving an extraordinary transactions with a controlling shareholder must either include at least one-third of the disinterested shareholders who are present, in person or by proxy, at the meeting (excluding abstaining votes), or, alternatively, the total shareholdings of the disinterested shareholders who vote against the transaction must not represent more than one percent (1%) of the voting rights in the company.

In addition, a private placement of securities that will increase the relative holdings of a shareholder that holds five percent (5%) or more of the company's outstanding share capital, assuming the exercise and conversion by such person of all of the convertible securities into shares held by that person, or that will cause any person to become a holder of more than five percent (5%) of the company's outstanding share capital, requires approval by the board of directors and the shareholders of the company. However, subject to certain exceptions, shareholder approval will not be required if the aggregate number of shares issued pursuant to such private placement, assuming the exercise and conversion of all of the convertible securities into shares being sold in such a private placement, comprises less than twenty percent (20%) of the

voting rights in a company prior to the consummation of the private placement.

Under the Companies Law, a shareholder has a duty to act in good faith towards the company and other shareholders and refrain from abusing his power in the company, among other matters, through his voting in the general meetings of shareholders on the following matters:

- any amendment to the Articles of Association;
- an increase of the company's authorized share capital;
- a merger; and
- approval of actions of office holders in breach of their duty of loyalty and of interested party transactions.

In addition, any controlling shareholder, any shareholder who knows he, she or it can determine the outcome of a shareholders vote or of a class vote, and any shareholder who, under our Articles of Association, has the power to appoint, or to prevent the appointment of, an office holder, is under a duty to act with fairness towards the company. The Companies Law does not describe the substance of such duty of fairness. The Companies Law requires that specified types of transactions, actions and arrangements be approved as provided for in a company's articles of association and in some circumstances by the audit committee, the board of directors and the shareholders. In general, the vote required by the audit committee and the board of directors for approval of these matters, in each case, is a majority of the disinterested directors participating in a duly convened meeting.

For information concerning the direct and indirect personal interests of some of our office holders and principal shareholders in transactions with us, see "Item 7. Major Shareholders and Related Party Transactions; Related Party Transactions" above.

Rights Attached to Ordinary Shares

Our authorized share capital consists of 50,000,000 ordinary shares, par value NIS 0.01 per share. Holders of ordinary shares have one vote per share, and are entitled to participate equally in the payment of dividends and share distributions and, in the event of our liquidation, in the distribution of assets after satisfaction of liabilities to creditors. No preferred shares are currently authorized. All outstanding ordinary shares are validly issued and fully paid.

Transfer of Shares

Fully paid ordinary shares are issued in registered form and may be freely transferred under our Articles of Association unless the transfer is restricted or prohibited by another instrument.

Dividend and Liquidation Rights

We may declare a dividend to be paid to the shareholders of our ordinary shares according to their rights and interests in our profits. In the event of our liquidation, after satisfaction of liabilities to creditors, our assets will be distributed to the shareholders of our ordinary shares in proportion to the nominal value of their shareholdings. This right may be affected by the grant of preferential dividend or distribution rights to the shareholders of a class of shares with preferential rights that may be authorized in the future. Pursuant to Israel's securities laws, a company registering its shares for trade on the Tel Aviv Stock Exchange (TASE) may not have more than one class of shares for a period of one year following registration, after which it is permitted to issue preference shares. Under the Companies Law, the declaration of a dividend does not require the approval of the shareholders of the company, unless the company's Articles of Association require otherwise. Our Articles of Association provide that the board of directors may declare and distribute dividends without the approval of the shareholders.

To date, we have not declared or distributed any dividend.

Annual and Special General Meetings

We must hold our annual general meeting of shareholders each year no later than 15 months from the last annual meeting, at a time and place determined by the board of directors, upon at least 21 days' prior notice to our shareholders. The board of directors may, whenever it thinks fit, convene a special meeting as may be determined by the board of directors. The board of directors shall be obligated to convene a special meeting, as may be determined by the board of directors, upon requisition in writing in accordance with the Companies Law. Not less than twenty-one (21) days' prior notice, or thirty-five (35) days' prior notice to the extent required under regulations promulgated under the Companies Law,

shall be given of every general meeting. Each such notice shall specify the place and the time of the meeting and the general nature of each item to be acted upon thereat, as well as any other information required by the Companies Law or any regulation promulgated thereunder, said notice to be given to all shareholders who will be entitled to attend and vote at such meeting and delivered or publicized in any manner permitted under the Companies Law.

The quorum required for a meeting of shareholders consists of at least two shareholders present in person or by proxy who hold or represent between them at least 33.3% of the issued share capital. A meeting adjourned for lack of a quorum generally is adjourned to the same day in the following week at the same time and place or any time and place as the directors designate in a notice to the shareholders. At the reconvened meeting, the required quorum consists of any two members present in person or by proxy.

Voting Rights

Our ordinary shares do not have cumulative voting rights in the election of directors. As a result, the holders of ordinary shares that represent more than 50% of the voting power represented at a shareholders meeting have the power to elect all of our directors, except the external directors whose election requires a special majority as described under the section entitled "Item 6. Directors, Senior Management and Employees; Board Practices; External and Independent Directors."

Holders of ordinary shares have one vote for each ordinary share held on all matters submitted to a vote of shareholders. Shareholders may vote in person or by proxy. These voting rights may be affected by the grant of any special voting rights to the holders of a class of shares with preferential rights that may be authorized in the future.

Under the Companies Law, unless otherwise provided in the Articles of Association or by applicable law, all resolutions of the shareholders require a simple majority and all shareholders' meetings require prior notice of at least 21 days. Our Articles of Association provide that, except with respect to mattes which require the approval of a special majority under the Companies Law, all decisions may be made by a simple majority of the voting power represented at the meeting, in person, by proxy or by proxy card, and voting thereon. See “Item 10. Additional Information; Memorandum and Articles of Association; Approval of Certain Transactions” above for certain duties of shareholders towards the company.

Limitations on the Rights to Own Securities

The ownership or voting of ordinary shares by non-residents of Israel is not restricted in any way by our articles of association or the laws of the State of Israel, except that nationals of countries which are, or have been, in a state of war with Israel may not be recognized as owners of our shares.

Anti-Takeover Provisions under Israeli Law

The Companies Law provides that an acquisition of shares in a public company must be made by means of a tender offer if, as a result of such acquisition, the purchaser would become a shareholder with over 25% of the voting rights in the company. This rule does not apply if there is already another shareholder of the company with 25% or more of the voting rights. Similarly, the Companies Law provides that an acquisition of shares in a public company must be made by means of a tender offer if, as a result of the acquisition, the purchaser’s shareholdings would entitle the purchaser to over 45% of the voting rights in the company, unless there is already another shareholder with 45% or more of the voting rights in the company. These rules do not apply if the acquisition is made by way of a merger, as well as in certain other events of private placements and acquisitions from holders of blocks of 25% or more or 45% or more of the voting rights in the Company.

Finally, in general, Israeli tax law treats specified acquisitions less favorably than does U.S. tax law. However, Israeli tax law provides for tax deferral in specified acquisitions, including transactions where the consideration for the sale of shares is the receipt of shares of the acquiring company.

Exchange Controls

Under Israeli Law, Israeli non-residents who purchase ordinary shares with certain non-Israeli currencies (including dollars) may freely repatriate in such non-Israeli currencies all amounts received in Israeli currency in respect of the ordinary shares, whether as a dividend, as a liquidating distribution, or as proceeds from any sale in Israel of the ordinary shares, provided in each case that any applicable Israeli income tax is paid or withheld on such amounts. The conversion into the non-Israeli currency must be made at the rate of exchange prevailing at the time of conversion. Under Israeli law, both residents and non-residents of Israel may freely hold, vote and trade ordinary shares, except nationals of countries which are, or have been, in a state of war with Israel.

Taxation

The following discussion of Israeli and United States tax consequences material to our shareholders is not intended and should not be construed as legal or professional tax advice and does not exhaust all possible tax considerations. To the extent that the discussion is based on new tax legislation, which has not been subject to judicial or administrative interpretation, the views expressed in the discussion might not be accepted by the tax authorities in question.

We urge shareholders and prospective purchasers of our ordinary shares to consult their own tax advisers as to the U.S., Israeli, or other tax consequences of the purchase, ownership and disposition of ordinary shares, including, in particular, the effect of any foreign, state or local taxes.

Israeli Taxation and Investment Programs

The following is a summary of the principal tax laws applicable to companies in Israel, including special reference to their effect on us, and Israeli government programs benefiting us. This section also contains a discussion of the material Israeli tax consequences to you if you acquire Ordinary Shares of our company. This summary does not discuss all the acts of Israeli tax law that may be relevant to you in light of your personal investment circumstances or if you are subject to special treatment under Israeli law. To the extent that the discussion is based on new tax legislation which has not been subject to judicial or administrative interpretation, we cannot assure you that the views expressed in this discussion will be accepted by the tax authorities. The discussion should not be understood as legal or professional tax advice and is not exhaustive of all possible tax considerations.

General Corporate Tax Structure

Generally, Israeli companies are subject to "Corporate Tax" on their taxable income. The applicable rates are as follows: in 2009 - 26%, in 2010 - 25%, in 2011 - 24%, in 2012 - 23%, in 2013 – 22%, in 2014 – 21%, in 2015 – 20% and in 2016 and thereafter - 18%. However, the effective tax rate payable by a company which derives income from an Approved Enterprise (as further discussed below) may be considerably less.

Following an additional amendment to the Ordinance , which came into effect on January 1, 2009, an Israeli corporation may elect a 5% rate of corporate tax (instead of 25%) for income from dividend distributions received from a foreign subsidiary which is distributed and used in Israel in 2009, or within one year after actual receipt of the dividend, whichever is later. The 5% tax rate is subject to various conditions, which include conditions with regard to the identity of the corporation that distributes the dividends, the source of the dividend, the nature of the use of the dividend income, and the period during which the dividend income will be used in Israel.

Tax Benefits under the Law for the Encouragement of Industry (Taxes), 1969

The Law for the Encouragement of Industry (Taxes), 1969, generally referred to as the Industry Encouragement Law, provides several tax benefits for industrial companies. An industrial company is defined as a company resident in Israel, at least 90% of the income of which in a given tax year exclusive of income from specified government loans, capital gains, interest and dividends, is derived from an industrial enterprise owned by it. An industrial enterprise is defined as an enterprise whose major activity in a given tax year is industrial production activity.

Under the Industry Encouragement Law, industrial companies are entitled to a number of corporate tax benefits, including:

- deduction of purchase of know-how and patents and/or right to use a patent over an eight-year period ;
- the right to elect, under specified conditions, to file a consolidated tax return with additional related Israeli industrial companies and an industrial holding company;
- accelerated depreciation rates on equipment and buildings; and
- deductibility of expenses related to a public offering on the Tel Aviv Stock Exchange and on recognized stock markets outside of Israel, are deductible in equal amounts over three years.

Under some tax laws and regulations, an industrial enterprise may be eligible for special depreciation rates for machinery, equipment and buildings. These rates differ based on various factors, including the date the operations begin and the number of work shifts. An industrial company owning an Approved Enterprise may choose between these special depreciation rates and the depreciation rates available to the Approved Enterprise.

Eligibility for benefits under the Industry Encouragement Law is not subject to receipt of prior approval from any governmental authority.

We believe that we currently qualify as an industrial company within the definition of the Industry Encouragement Law. We cannot assure you that the Israeli tax authorities will agree that we qualify, or, if we qualify, that we will continue to qualify as an industrial company or that the benefits described above will be available to us in the future.

Tax Benefits Under the Law for the Encouragement of Capital Investments, 1959

Tax benefits prior the 2005 amendment

The Law for the Encouragement of Capital Investments, 1959, as amended (effective as of April 1, 2005) (the "Investments Law"), provides that a proposed capital investment in eligible facilities may, upon application to the Investment Center of the Ministry of Industry and Commerce of the State of Israel, be designated as an Approved Enterprise.

The Investments Law provides that an Approved Enterprise is eligible for tax benefits on taxable income derived from its Approved Enterprise programs. The tax benefits under the Investments Law also apply to income generated by a company from the grant of a right of use with respect to know-how developed by the approved enterprise, income generated from royalties, and income derived from a service which is ancillary to such right of use or royalties, provided that such income is generated within the approved enterprise's ordinary course of business. If a company has more than one approval or only a portion of its capital investments are approved, its effective tax rate is the result of a weighted average of the applicable rates. The tax benefits under the Investments Law are not, generally, available with respect to income derived from products manufactured outside of Israel. In addition, the tax benefits available to an Approved Enterprise are contingent upon the fulfillment of conditions stipulated in the Investments Law and regulations and the criteria set forth in the specific certificate of approval, as described above. In the event that a company does not meet these conditions, it would be required to refund the amount of tax benefits, plus a consumer price index linkage adjustment and interest.

The Investments Law also provides that an Approved Enterprise is entitled to accelerated depreciation on its property and equipment that are included in an Approved Enterprise program in the first five years of using the equipment.

Taxable income of a company derived from an Approved Enterprise is subject to corporate tax at the maximum rate of 25%, rather than the regular corporate tax rate, for the benefit period. This period is ordinarily seven years commencing with the year in which the Approved Enterprise first generates taxable income, and is limited to 12 years from commencement of production or 14 years from the date of approval, whichever is earlier. The year's limitation does not apply to the exemption period.

However, a company may elect to receive an alternative package of benefits under which (a) its undistributed income derived from the Approved Enterprise will be exempt from corporate tax for a period of between two and ten years from the first year it derives taxable income under the program, depending on the geographic location of the Approved Enterprise within Israel, and (b) it will be eligible for reduced tax rates for the remainder of the benefits period**.** We have elected the alternative benefits package.

A company that has elected the alternative package of benefits that subsequently pays a dividend out of income derived from the Approved Enterprise during the tax exemption period will be required to recapture the deferred corporate income tax applicable to the amount distributed (grossed up to reflect such tax) at the rate which would have been applicable had such company not elected the alternative route. This rate is generally 10% to 25%, depending on the extent to which non-Israeli shareholders hold such company's shares. The dividend recipient is subject to withholding tax at the rate of 15% applicable to dividends from approved enterprises, if the dividend is distributed during the tax exemption period or within twelve years thereafter. The company must withhold this tax at source.

A company that has an Approved Enterprise program is eligible for further tax benefits if it qualifies as a foreign investors' company. A foreign investors' company is a company which more than 25% of its share capital and combined share and loan capital is owned by non-Israeli residents. A company that qualifies as a foreign investors' company and has an Approved Enterprise program is eligible for tax benefits for a ten-year benefit period. As specified above, depending on the geographic location of the Approved Enterprise within Israel, income derived from the Approved Enterprise program may be exempt from tax on its undistributed income for a period of between two to ten years, and will be subject to a reduced tax rate for the remainder of the benefits period. The tax rate for the remainder of the benefits period will be 25%, unless the level of foreign investment exceeds 49%, in which case the tax rate will be 20% if the foreign investment is more

than 49% and less than 74%; 15% if more than 74% and less than 90%; and 10% if 90% or more.

Subject to applicable provisions concerning income under the alternative package of benefits, dividends paid by a company are considered to be attributable to income received from the entire company and the company's effective tax rate is the result of a weighted average of the various applicable tax rates, excluding any tax-exempt income. Under the Investments Law, a company that has elected the alternative package of benefits is not obligated to distribute retained profits, and may generally decide from which year's profits to declare dividends. We currently intend to reinvest any income derived from our Approved Enterprise program and not to distribute such income as a dividend.

Currently we have two approved enterprises programs under the Investment Law. Both are under the alternative benefits program and in both cases, the tax benefits period for these programs has not yet begun.

Tax benefits under the 2005 Amendment

A 2005 amendment to the Investments Law (the "Amendment") included revisions to the criteria for investments qualified to receive tax benefits as an approved enterprise. The Amendment applies to new investment programs and investment programs commencing after 2004, and does not apply to investment programs approved prior to December 31, 2004. However, a company that was granted benefits according to section 51 of the Investment Law would not be allowed to commence production for a period of 2 years from the company's previous year of commencement of benefits under the amended investment law, provided certain conditions are met.

Under the amended law, a company wishing to receive the tax benefits afforded under the law is required to select the tax year from which the period of benefits under the Investment Law are to commence by notifying the Israeli Tax Authority within 12 months of the end of that year.

Our company will continue to enjoy its current tax benefits in accordance with the provisions of the Investment Law prior to its revision, but if our company is granted any new benefits in the future they will be subject to the provisions of the amended Investment Law. Therefore, the following discussion is a summary of the Investment Law prior to its amendment as well as the relevant changes contained in the new legislation.

The Amendment simplifies the approval process: according the Amendment, only approved enterprises receiving cash grants require the approval of the Investment Center. The Amendment does not apply to benefits included in any certificate of approval that was granted before the Amendment came into effect, which will remain subject to the provisions of the Investment Law as they were on the date of such approval.

Tax benefits are available under the Amendment to production facilities (or other eligible facilities), which are generally required to derive more than 25% of their business income from export (referred to as a "Benefited Enterprise"). In order to receive the tax benefits, the Amendment states that the company must make an investment in the Benefited Enterprise exceeding a certain percentage or a minimum amount specified in the Law. Such investment may be made over a period of no more than three years ending at the end of the year in which the company requested to have the tax benefits apply to the Benefited Enterprise (the "Year of Election"). Where the company requests to have the tax benefits apply to an expansion of existing facilities, then only the expansion will be considered a Benefited Enterprise and the company's effective tax rate will be the result of a weighted combination of the applicable rates. In this case, the minimum investment required in order to qualify as a Benefited Enterprise is required to exceed a certain percentage or a minimum amount of the company's production assets before the expansion.

The duration of tax benefits is subject to a limitation of the earlier of 7 to 10 years from the Commencement Year, or 12 years from the first day of the Year of Election. The tax benefits granted to a Benefited Enterprise are determined according to one of the following new tax routes, which may be applicable to us:

- Tax "holiday" package for Benefited Enterprise - a tax, exemption from corporate tax on undistributed income for a period of two to ten years, depending on the geographic location of the Benefited Enterprise within Israel, and a reduced corporate tax rate of 10% to 25% for the remainder of the benefits period, depending on the level of foreign investment in each year. Benefits may be granted for a term of seven to ten years, depending on the level of foreign investment in the company. If the company pays a dividend out of income derived from the Benefited Enterprise during the tax exemption period, such income will be subject to corporate tax at the applicable rate (10%-25%) in respect of the gross amount of the dividend that we may distribute. The company is required to withhold tax at the source at a rate of 15% from any dividends distributed from income derived from the Benefited Enterprise; or

- A special tax route, which enables companies owning facilities in certain geographical locations in Israel to pay corporate tax at the rate of 11.5% on income of the Benefited Enterprise. The benefits period is ten years. Upon payment of dividends, the company is required to withhold tax at source at a rate of 15% for Israeli residents and at a rate of 4% for foreign residents.

Generally, a company that is abundant in Foreign Investment (as defined in the Investments Law) is entitled to an extension of the benefits period by an additional five years, depending on the rate of its income that is derived in foreign currency.

The Amendment changes the definition of "foreign investment" in the Investments Law so that the definition now requires a minimal investment of NIS 5 million by foreign investors. Furthermore, such definition now also includes the purchase of shares of a company from another shareholder, provided that the company's outstanding and paid-up share capital exceeds NIS 5 million. Such changes to the aforementioned definition will take effect retroactively from 2003.

The Amendment applies to Approved Enterprise programs in which the year of election under the Investments Law is 2004 or later, unless such programs received approval from the Investment Center on or prior to December 31, 2004, in which case the Amendment provides that terms and benefits included in any certificate of approval already granted will remain subject to the provisions of the law as they were on the date of such approval.

Special Provisions Relating to Measurement of Taxable Income

According to the law, until 2007 the results for tax purposes were measured adjusted for changes in the Israeli CPI.

In February 2008 the "Knesset" (Israeli parliament) passed an amendment to the Income Tax (Inflationary Adjustments) Law, 1985, which limits the scope of the law starting 2008 and thereafter. Starting 2008 the results for tax purposes are measured in nominal values, excluding certain adjustments for changes in the Israeli CPI carried out in the period up to December 31, 2007. The amendment to the law includes, inter alia, the elimination of the inflationary additions and deductions and the additional deduction for depreciation starting 2008. For additional information, see Note 13 to our consolidated financial statements.

Tax Benefits of Research and Development

Israeli tax law permits, under some conditions, a tax deduction in the year incurred for expenditures, including capital expenditures, in scientific research and development projects, if the expenditures are approved by the relevant government ministry and if the research and development is for the promotion of the enterprise and is carried out by, or on behalf of, a company seeking the deduction.

The OCS has approved some of our research and development programs and we have been able to deduct, for tax purposes, a portion of our research and development expenses net of the grants received. Other research and development expenses that are not approved may be deducted for tax purposes in 3 equal installments during a 3-year period.

Capital Gains Tax on Sales of Our Ordinary Shares

Israeli law generally imposes a capital gains tax on the sale of any capital assets by residents of Israel, as defined for Israeli tax purposes, and on the sale of assets located in Israel, including shares in Israeli companies, by both residents and non-residents of Israel, unless a specific exemption is available or unless a tax treaty between Israel and the shareholder's country of residence provides otherwise. The law distinguishes between real gain and inflationary surplus. The inflationary surplus is a portion of the total capital gain which is equivalent to the increase of the relevant asset's purchase price which is attributable to the increase in the Israeli consumer price index or, in certain circumstances, a foreign currency exchange rate, between the date of purchase and the date of sale. The real gain is the excess of the total capital gain over the inflationary surplus.

As of January 1, 2006, the tax rate applicable to capital gains derived from the sale of shares, whether listed on a stock market or not, is 20% for Israeli individuals, unless such shareholder claims a deduction for financing expenses in connection with such shares, in which case the gain will generally be taxed at a rate of 25%. Additionally, if such shareholder is considered a "material shareholder" at any time during the 12-month period preceding such sale, i.e., such shareholder holds directly or indirectly, including with others, at least 10% of any means of control in the company, the tax rate shall be 25%. Israeli companies are subject to the Corporate Tax rate on capital gains derived from the sale of shares, unless such companies were not subject to the Adjustments Law (or certain regulations) at the time of publication of the aforementioned amendment to the Tax Ordinance that came into effect on January 1, 2006, in which case the applicable tax rate is 25%. However, the foregoing tax rates do not apply to: (i) dealers in securities; and (ii) shareholders who acquired

their shares prior to an initial public offering (which shares may be subject to a different tax arrangement).

The tax basis of shares acquired prior to January 1, 2003 will be determined in accordance with the average closing share price in the three trading days preceding January 1, 2003. However, a request may be made to the tax authorities to consider the actual adjusted cost of the shares as the tax basis if it is higher than such average price.

Non-Israeli residents are exempt from Israeli capital gains tax on any gains derived from the sale of shares of Israeli companies publicly traded on a recognized stock exchange or regulated market outside of Israel, provided however that such capital gains are not derived from a permanent establishment in Israel, such shareholders are not subject to the Adjustments Law, and such shareholders did not acquire their shares prior to an initial public offering. However, non-Israeli corporations will not be entitled to such exemption if an Israeli resident (i) has a controlling interest of 25% or more in such non-Israeli corporation, or (ii) is the beneficiary or is entitled to 25% or more of the revenues or profits of such non-Israeli corporation, whether directly or indirectly.

In some instances where our shareholders may be liable to Israeli tax on the sale of their ordinary shares, the payment of the consideration may be subject to the withholding of Israeli tax at the source.

Pursuant to the Convention Between the government of the United States of America and the government of Israel with Respect to Taxes on Income, as amended (the "U.S.-Israel Tax Treaty"), the sale, exchange or disposition of ordinary shares by a person who (i) holds the ordinary shares as a capital asset, (ii) qualifies as a resident of the United States within the meaning of the U.S.-Israel Tax Treaty and (iii) is entitled to claim the benefits afforded to such person by the U.S.-Israel Tax Treaty, generally, will not be subject to the Israeli capital gains tax. Such exemption will not apply if (i) such Treaty U.S. Resident holds, directly or indirectly, shares representing 10% or more of our voting power during any part of the 12-month period preceding such sale, exchange or disposition, subject to certain conditions, or (ii) the capital gains from such sale, exchange or disposition can be allocated to a permanent establishment in Israel. In such case, the sale, exchange or disposition of ordinary shares would be subject to Israeli tax, to the extent applicable; however, under the U.S.-Israel Tax Treaty, such Treaty U.S. Resident would be permitted to claim a credit for such taxes against the U.S. federal income tax imposed with respect to such sale, exchange or disposition, subject to the limitations in U.S. laws applicable to foreign tax credits. The U.S.-Israel Tax Treaty does not relate to U.S. state or local taxes.

Taxation of Non-Resident Holders of Shares

Non-residents of Israel are subject to income tax on income accrued or derived from sources in Israel. Such sources of income include passive income such as dividends, royalties and interest, as well as non-passive income from services rendered in Israel. On distributions of dividends other than bonus shares, or stock dividends, income tax is withheld at the source at the following rates: (i) for dividends distributed prior to January 1, 2006 - 25%; (ii) for dividends distributed on or after January 1, 2006 - 20%, or 25% for a shareholder that is considered a "material shareholder" at any time during the 12-month period preceding such distribution, unless a different rate is provided in a treaty between Israel and the shareholder's country of residence. Under the U.S.-Israel Tax Treaty, the maximum tax on dividends paid to a holder of ordinary shares who is a Treaty U.S. Resident is 25%. However, under the Investments Law, dividends generated by an Approved Enterprise or Privileged Enterprise are taxed at the rate of 15%. Furthermore, dividends not generated by an Approved Enterprise or Privileged Enterprise paid to a U.S. corporation holding at least 10% of our issued voting power during the part of the tax year which precedes the date of payment of the dividend and during the whole of its prior tax year, are generally taxed at a rate of 12.5%.

For information with respect to the applicability of Israeli capital gains taxes on the sale of ordinary shares by United States residents, see above " - Capital Gains Tax on Sales of Our Ordinary Shares."

United States Federal Income Tax Considerations

Subject to the limitations described below, the following discussion summarizes certain U.S. federal income tax consequences of the purchase, ownership and disposition of our ordinary shares to a U.S. holder that owns our ordinary shares as a capital asset (generally, for investment). A "U.S. holder" is a holder of our ordinary shares that is:

- an individual citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) created or organized in the United States or under the laws of the United States, any state or political subdivision thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or

- a trust if (i) a court within the United States is able to exercise primary supervision over its administration and one or more U.S. persons have the authority to control all of its substantial decisions or (ii) that has in effect a valid election under applicable U.S. Treasury Regulations to be treated as a U.S. person.

Certain aspects of U.S. federal income taxes relevant to a holder of our ordinary shares that is not a U.S. holder (a "Non-U.S. holder") are also discussed below.

This discussion is based on current provisions of the Internal Revenue Code of 1986, as amended (the "Code"), current and proposed Treasury Regulations, and administrative and judicial decisions as of the date of this annual report, all of which are subject to change, possibly on a retroactive basis. This discussion does not address all aspects of U.S. federal income taxation that may be relevant to any particular U.S. holder in light of the holder's individual circumstances. In particular, this discussion does not address the potential application of the alternative minimum tax or the U.S. federal income tax consequences to U.S. holders that are subject to special treatment, including U.S. holders that:

- are broker-dealers or insurance companies;
- have elected mark-to-market accounting;
- are tax-exempt organizations or retirement plans;
- are grantor trusts;
- are certain former citizens or long-term residents of the United States;
- are financial institutions or financial services entities;
- hold ordinary shares as part of a straddle, hedge or conversion transaction with other investments;
- acquired their ordinary shares upon the exercise of employee stock options or otherwise as compensation;
- are real estate investment trusts or regulated investment companies;
- are liable to alternative minimum tax;
- own directly, indirectly or by attribution at least 10% of our voting power; or
- have a functional currency that is not the U.S. dollar.

If a partnership (or any other entity treated as a partnership for U.S. federal income tax purposes) holds our ordinary shares, the tax treatment of the partnership and a partner in such partnership will generally depend on the status of the partner and the activities of the partnership. Such a partner or partnership should consult its tax advisor as to its tax consequences.

This discussion is not a comprehensive description of all of the tax considerations that may be relevant to each person's decision to purchase our ordinary shares. For example, this discussion does not address any aspect of state, local or non-U.S. tax laws or the possible application of United States federal gift or estate taxes.

Each holder of our ordinary shares is advised to consult his or her own tax advisor with respect to the specific tax consequences to him or her of purchasing, owning or disposing of our ordinary shares, including the applicability and effect of federal, state, local and foreign income and other tax laws to his or her particular circumstances.

Taxation of Distributions Paid on Ordinary Shares

Subject to the discussion below under "Tax Consequences if we are a Passive Foreign Investment Company," a U.S. holder will be required to include in gross income as dividend income the amount of any distribution paid on our ordinary shares, including any non-U.S. taxes withheld from the amount paid, on the date the distribution is received to the extent the distribution is paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. Distributions in excess of earnings and profits will be treated as a return of capital that will be applied against and will reduce the U.S. holder's tax basis in its ordinary shares and, to the extent in excess of that basis, will be treated as gain from the sale or exchange of ordinary shares. The dividend portion of such distribution generally will not qualify for the dividends received deduction otherwise available to corporations.

Dividends that are received by U.S. holders that are individuals, estates or trusts will be taxed at the rate applicable to long-term capital gains (currently a maximum rate of 15% for taxable years beginning on or before December 31, 2010), provided that such dividends meet the requirements of "qualified dividend income." Dividends that fail to meet such requirements, and dividends received by corporate U.S. holders, are taxed at ordinary income rates. In order for our

dividends to qualify as "qualified dividend income," we need to be considered a "qualified foreign corporation," which requires that we be eligible for the benefits of a comprehensive income tax treaty with the United States which includes an information exchange program that the IRS determines is satisfactory. Furthermore, dividend received by a U.S. holder will be a qualified dividend if (1) the U.S. holder held the ordinary share with respect to which the dividend was paid for less than 61 days during the 121-day period beginning on the date that is 60 days before the ex-dividend date with respect to such dividend, excluding for this purpose, under the rules of Code Section 246(c), any period during which the U.S. holder has an option to sell, is under a contractual obligation to sell, has made and not closed a short sale of, is the grantor of a deep-in-the-money or otherwise nonqualified option to buy, or has otherwise diminished its risk of loss by holding other positions with respect to, such ordinary share (or substantially identical securities) or (2) the U.S. holder is under an obligation (pursuant to a short sale or otherwise) to make related payments with respect to positions in property substantially similar or related to the ordinary share with respect to which the dividend is paid. If we were to be a "passive foreign investment company" (as such term is defined in the Code) for any taxable year, dividends paid on our ordinary shares in such year or in the following taxable year would not be qualified dividends. See the discussion below regarding our passive foreign investment company status under "Tax Consequences if se are a Passive Foreign Investment Company." In addition, a non-corporate U.S. holder will be able to take a qualified dividend into account in determining its deductible investment interest (which is generally limited to its net investment income) only if it elects to do so; in such case the dividend will be taxed at ordinary income rates.

Distributions of current or accumulated earnings and profits paid in foreign currency to a U.S. holder (including any non-U.S. taxes withheld from the distributions) will generally be includible in the income of a U.S. holder in a U.S. dollar amount calculated by reference to the spot NIS/U.S. Dollar exchange rate on the date of the distribution, regardless of whether the payment is in fact converted into U.S. Dollars. A U.S. holder that receives a foreign currency distribution and converts the foreign currency into U.S. dollars after the date of distribution may have foreign exchange gain or loss based on any appreciation or depreciation in the value of the foreign currency against the U.S. dollar, which will generally be U.S. source ordinary income or loss.

U.S. holders will have the option of claiming the amount of any non-U.S. income taxes withheld at source either as a deduction from gross income or as a dollar-for-dollar credit against their U.S. federal income tax liability. Individuals who do not claim itemized deductions, but instead utilize the standard deduction, may not claim a deduction for the amount of the non-U.S. income taxes withheld, but the amount may be claimed as a credit against the individual's U.S. federal income tax liability. The amount of non-U.S. income taxes that may be claimed as a credit in any taxable year is subject to complex limitations and restrictions, which must be determined on an individual basis by each U.S. holder. These limitations include rules which limit foreign tax credits allowable for specific classes of income to the U.S. federal income taxes otherwise payable on each such class of income. The total amount of allowable foreign tax credits in any taxable year cannot exceed the pre-credit U.S. tax liability for the taxable year attributable to non-U.S. source taxable income. Dividends will be income from sources outside the United States for foreign tax credit limitation purposes but will generally be "passive income" which is a type of income that is treated separately from other types of income for foreign tax credit limitation purposes.

A U.S. holder will be denied a foreign tax credit for non-U.S. income taxes withheld from a dividend received on the ordinary shares (i) if the U.S. holder has not held the ordinary shares for at least 16 days of the 31–day period beginning on the date which is 15 days before the ex-dividend date with respect to such dividend or (ii) to the extent the U.S. holder is under an obligation to make related payments with respect to positions in substantially similar or related property. Any days during which a U.S. holder has substantially diminished its risk of loss on the ordinary shares are not counted toward meeting the required 16-day holding period. In addition, to the extent a refund of the tax withheld is available to a U.S. holder under the laws of Israel or under the U.S.-Israel tax treaty, the amount of tax withheld that is refundable will not be eligible for credit against the U.S. holder's U.S. federal income tax liability, whether or not the refund is actually obtained.

Taxation of the Disposition of Ordinary Shares

Subject to the discussion below under "Tax Consequences if We Are a Passive Foreign Investment Company," upon the sale, exchange or other disposition of our ordinary shares, a U.S. holder will recognize capital gain or loss in an amount equal to the difference between the U.S. holder's basis in the ordinary shares, which is usually the cost to the U.S. holder of the ordinary shares, and the amount realized on the disposition. A disposition of ordinary shares will be considered to occur on the trade date, regardless of the U.S. holder's method of accounting. In the case of non-corporate U.S. holders, capital gain from the sale, exchange or other disposition of ordinary shares held more than one year will be long-term capital gain and may be subject to a reduced rate of taxation (long-term capital gains are currently taxable at a maximum rate of 15% for taxable years beginning on or before December 31, 2010). Gain or loss recognized by a U.S. holder on a sale, exchange or other disposition of ordinary shares will generally be treated as U.S. source income for U.S. foreign tax credit purposes. The deductibility of a capital loss recognized on the sale, exchange or other disposition of ordinary shares may be subject to limitations.

A U.S. holder that uses the cash method of accounting calculates the dollar value of the proceeds received on the sale as of the date that the sale settles. However, a U.S. holder that uses the accrual method of accounting is required to calculate the value of the proceeds of the sale as of the trade date and may therefore realize foreign currency gain or loss. A U.S. holder may avoid realizing foreign currency gain or loss by electing to use the settlement date to determine the proceeds of sale for purposes of calculating the foreign currency gain or loss. In addition, a U.S. holder that receives foreign currency upon disposition of ordinary shares and converts the foreign currency into dollars after the settlement date or trade date (whichever date the U.S. holder is required to use to calculate the value of the proceeds of sale) may have foreign exchange gain or loss based on any appreciation or depreciation in the value of the foreign currency against the dollar, which will generally be U.S. source ordinary income or loss.

Tax Consequences if We Are a Passive Foreign Investment Company

For U.S. federal income tax purposes, we will be classified as a passive foreign investment company, or PFIC, for any taxable year in which either, after applying certain look-thru rules, (i) 75% or more of our gross income is passive income (the "Income Test") or (ii) at least 50% of the average value (determined on a quarterly basis) of our total assets for the taxable year produce or are held for the production of passive income. For this purpose, cash is considered to be an asset which produces passive income. Passive income includes dividends, interest, royalties, rents, annuities and the excess of gains over losses from the disposition of certain assets which produce passive income.

Based on our income, assets, activities and market capitalization, we are slightly below the 75% threshold under the Income Test as a result of the sale of a portion of our Evogene shares in 2009. Thus, we do not believe we were a PFIC for the taxable year ended December 31, 2009; however, there can be no assurances that the United States Internal Revenue Service ("IRS") will not challenge this conclusion. There is a also risk that we were a PFIC for the taxable years 2001, 2002 and 2003 as a result of our substantial cash position and the performance of our ordinary shares during those taxable years. If we were a PFIC during 2001, 2002 and 2003, U.S. holders who acquired or held our ordinary shares during those taxable years generally will be subject to the PFIC rules described below regardless of whether we were a PFIC for 2009. However, if we were not a PFIC for 2009, U.S. holders who acquired our ordinary shares in 2009 will not be subject to the PFIC rules unless we are classified as a PFIC in future years. The tests for determining PFIC status are applied annually and it is difficult to make accurate predictions of our future income, assets, activities and market capitalization, which are relevant to this determination.

If we are a PFIC, a U.S. holder of our ordinary shares could be subject to increased tax liability upon the sale or other disposition (including gifts) of its ordinary shares or upon the receipt of amounts treated as "excess distributions," which could result in a reduction in the after-tax return to such U.S. holder. In general, an excess distribution is the amount of distributions received during a taxable year that exceed 125% of the average amount of distributions received by a U.S. holder in respect of the ordinary shares during the preceding three taxable years, or if shorter, during the U.S. holder's holding period prior to the taxable year of the distribution. Under these rules, the excess distribution and any gain on the disposition of ordinary shares would be allocated ratably over the U.S. holder's holding period for the ordinary shares. The amount allocated to the current taxable year and any taxable year prior to the first taxable year in which we were a PFIC would be taxed as ordinary income. The amount allocated to each of the other taxable years would be subject to tax at the highest marginal rate in effect for the applicable class of taxpayer for that taxable year, and an interest charge for the deemed deferral benefit would be imposed on the resulting tax allocated to such other taxable years. The tax liability with respect to the amount allocated to taxable years prior to the year of the disposition or distribution cannot be offset by net operating losses. In addition, holders of stock in a PFIC may not receive a "step-up" in basis on PFIC shares acquired from a decedent.

As an alternative to the tax treatment described above, a U.S. holder could elect to treat us as a "qualified electing fund" ("QEF"), in which case the U.S. holder would be required to include in income, for each taxable year that we are a PFIC, its pro rata share of our ordinary earnings as ordinary income and its pro rata share of our net capital gains as long-term capital gain, subject to a separate election to defer payment of taxes which deferral is subject to an interest charge. Any income inclusion will be required whether or not such U.S. holder owns our ordinary shares for an entire taxable year or at the end of our taxable year. The amount so includable will be determined without regard to our prior year losses or the amount of cash distributions, if any, received from us. Special rules apply if a U.S. holder makes a QEF election after the first taxable year in its holding period in which we are a PFIC. We will supply U.S. holders that make a request in writing with the information needed to report income and gain under a QEF election if we are a PFIC. A U.S. holder's tax basis in its ordinary shares will increase by any amount included in income and decrease by any amounts not included in income when distributed because such amounts were previously taxed under the QEF rules. So long as a U.S. holder's QEF election is in effect with respect to the entire holding period for its ordinary shares, any gain or loss realized by such holder on the disposition of its ordinary shares held as a capital asset ordinarily would be capital gain or loss. The QEF election is made on a shareholder-by-shareholder basis, applies to all ordinary shares held or subsequently acquired by an electing U.S. holder and can be revoked only with the consent of the IRS.

As an alternative to making a QEF election, a U.S. holder of PFIC stock which is "marketable stock" (e.g., "regularly traded" on Nasdaq) may in certain circumstances avoid certain of the tax consequences generally applicable to holders of stock in a PFIC by electing to mark the stock to market as of the beginning of such U.S. holder's holding period for the ordinary shares. As a result of such an election, in any taxable year that we are a PFIC, a U.S. holder would generally be required to report gain or loss to the extent of the difference between the fair market value of the ordinary shares at the end of the taxable year and such U.S. holder's tax basis in its ordinary shares at that time. Any gain under this computation, and any gain on an actual disposition of the ordinary shares, would be treated as ordinary income. Any loss under this computation, and any loss on an actual disposition of the ordinary shares, generally would be treated as ordinary loss to the extent of the cumulative net-mark-to-market gain previously included. Any remaining loss from marking ordinary shares to market will not be allowed, and any remaining loss from an actual disposition of ordinary shares generally would be capital loss. A U.S. holder's tax basis in its ordinary shares is adjusted annually for any gain or loss recognized under the mark-to-market election. There can be no assurances that there will be sufficient trading volume with respect to the ordinary shares for the ordinary shares to be considered "regularly traded" or that our ordinary shares will continue to trade on Nasdaq. Accordingly, there are no assurances that the ordinary shares will be marketable stock for these purposes. As with a QEF election, a market-to-market election is made on a shareholder-by-shareholder basis, applies to all ordinary shares held or subsequently acquired by an electing U.S. holder and can only be revoked with consent of the IRS (except to the extent the ordinary shares no longer constitute "marketable stock").

In view of the uncertainty regarding our determination as a PFIC for past years, for 2009 and possibly for subsequent years, U.S. Shareholders are urged to consult their own tax advisors for guidance as to our status as a PFIC. For those U.S. shareholders who determine that we were a PFIC in 2009 and/or any subsequent years and who wish to make the QEF or the market-to-market election described above, such shareholders may notify us in writing and we will promptly make any such necessary information available to them.

The U.S. federal income tax consequences to a U.S. holder if we were to be a PFIC are complex. A U.S. holder should consult with his or her own advisor with regard to those consequences, as well as with regard to whether he or she should make either of the elections described above.

Tax Consequences for Non-U.S. Holders of Ordinary Shares

Except as described in "Information Reporting and Backup Withholding" below, a Non-U.S. holder of ordinary shares generally will not be subject to U.S. federal income or withholding tax on the payment of dividends on, and the proceeds from the disposition of, our ordinary shares, unless, in the case of U.S. federal income taxes:

- the dividend or proceeds, as the case may be, are effectively connected with the conduct by the Non-U.S. holder of a trade or business in the United States and, in the case of a resident of a country which has a treaty with the United States, the item is attributable to a permanent establishment in the United States, or in the case of an individual, the item is attributable to a fixed place of business in the United States; or
- the Non-U.S. holder is an individual who holds the ordinary shares as a capital asset and is present in the United States for 183 days or more in the taxable year of the dividend or disposition and certain other conditions are met.

Information Reporting and Backup Withholding

U.S. holders (other than exempt recipients such as corporations) generally are subject to information reporting requirements with respect to dividends paid in the United States on, or proceeds from the disposition of, our ordinary shares. In addition, a U.S. holder may be subject, under certain circumstances, to backup withholding at a rate of up to 28% with respect to dividends paid on, or proceeds from the disposition of, our ordinary shares unless the U.S. holder provides proof of an applicable exemption or correct taxpayer identification number and otherwise complies with applicable requirements of the backup withholding rules. A U.S. holder of our ordinary shares who provides an incorrect taxpayer identification number may be subject to penalties imposed by the IRS.

Non-U.S. holders generally are not subject to information reporting or backup withholding with respect to dividends paid on, or proceeds from the disposition of, our ordinary shares, provided that the Non-U.S. holder provides its taxpayer identification number, certifies to its foreign status, or establishes another exemption to the information reporting or back-up withholding requirements.

Amounts withheld under the backup withholding rules are not an additional tax and may be refunded or credited against the U.S. holder's federal income tax liability, provided the required information is furnished to the IRS.

Documents on Display

We are required to file reports and other information with the SEC under the Securities Exchange Act of 1934 (the "Exchange Act") and the regulations thereunder applicable to foreign private issuers. You may inspect and copy reports and other information filed by us with the SEC at the SEC's public reference facilities described below. Although as a foreign private issuer we are not required to file periodic information as frequently or as promptly as United States companies, we generally announce publicly our quarterly and year-end results promptly and furnish periodic information to the SEC under cover of Form 6-K. As a foreign private issuer, we are also exempt from the rules under the Exchange Act prescribing the furnishing and content of proxy statements and our officers, directors and principal shareholders are exempt from the reporting, short-swing profit and other rules and provisions under Section 16 of the Exchange Act.

You may review a copy of our filings with the SEC, including any exhibits and schedules, at the SEC's public reference facilities in 100 F Street N.W., Washington, D.C. 20549 and at offices of the Israel Securities Authority at 22 Kanfei Nesharim St., Jerusalem, Israel. You may also obtain copies of such materials from the Public Reference Section of the SEC, 100 F Street, N.W., Washington, D.C. 20549, at prescribed rates. You may call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. As a foreign private issuer we were only required to file through the SEC's EDGAR system as of November 2002. Our periodic filings are therefore available on the SEC's Website www.sec.gov from that date. You may read and copy any reports, statements or other information that we file with the SEC, through the SEC's EDGAR system available on the SEC's website and at the SEC facilities listed above. These SEC filings are also available to the public on the Israel Securities Authority's website at www.isa.gov.il and from commercial document retrieval services.

Any statement in this annual report about any of our contracts or other documents is not necessarily complete. If the contract or document is filed as an exhibit to this annual report, the contract or document is deemed to modify the description contained in this annual report. We urge you to review the exhibits themselves for a complete description of the contract or document.

Material Contracts

As described above (in "Item 4: Information on the Company; Business Overview; Existing Customers and Collaborators, Compugen's business model is to enter into numerous milestone and revenue sharing agreements based on its drug and diagnostic product candidate discoveries. Similar to the agreements signed to date, it is anticipated that future agreements with pharmaceutical and diagnostic companies will involve either or both (i) early-stage licensing of product candidates discovered by us in our internal research and platform development activities, and/or (ii) "discovery on demand" collaborative activities whereby existing or new discovery platforms are utilized to predict and select a number of product candidates in a field of interest, or of a type, desired by our partner. However, none of these collaboration agreements contractually require or guarantee the payment of future milestones or royalties to us, since the achievement of developmental stages and milestones, and the potential royalties from the sales of the drugs and/or diagnostics applications developed pursuant thereto is quite uncertain, and, based on industry experience, most early stage product candidates will fail in development. Therefore, we do not consider any individual licensing or collaboration agreement, or any other agreement that we have entered into during the two years immediately preceding this annual report, to be a material agreement entered into outside of the ordinary course of our business.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to a variety of risks, including changes in interest rates and foreign currency exchange risk and inflation.

Interest Rate Risk

As of December 31, 2009, we had $23.4 million in cash, cash equivalents, deposits and receivables on account of shares. We mostly invest our cash surplus in bank deposits and marketable securities. Since these investments typically carry fixed interest rate, and since our policy and practice is to hold these investments to maturity, financial income over the holding period is not sensitive to changes in interest rates. For more information, see Note 5 of our 2009 consolidated financial statements.

Foreign Currency Exchange Risk and Inflation

We hold most of our cash, cash equivalents deposits and marketable securities in U.S. dollars but incur a significant portion of our expenses, principally salaries and related personnel expenses and administrative expenses, in New Israeli Shekels. As a result, we are exposed to the risk that the U.S. dollar will be devalued against the New Israeli Shekel. Depreciation of the US dollar could have a material adverse effect on our results of operation and financial condition. We have entered into derivative instrument arrangements to hedge a portion of our anticipated New Israeli Shekel ("NIS") payroll and certain operation expenses. For more information, see Note 2s of our 2009 consolidated financial statements.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

Not applicable.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

Material Modifications to the Rights of Security Holders

None.

Use of Proceeds

None.

ITEM 15T. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we are required to file are recorded, processed, summarized and reported on a timely basis. Under the supervision of our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) and 15d-15(e) promulgated under the Exchange Act. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this annual report.

Management's Annual Report on Internal Control over Financial Reporting

Our management, with the involvement of our board of directors and audit committee, is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control system has been designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our consolidated financial statements for external purposes in accordance with generally accepted accounting principles.

Under the supervision of our Chief Executive Officer and Chief Financial Officer, our management conducted an evaluation of the effectiveness of our internal control over financial reporting, as such term is defined under Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act. In making this assessment, our management used the criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our internal control over financial reporting was effective as of the end of the period covered by this annual report.

Notwithstanding the foregoing, all internal control systems no matter how well designed have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of

effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Attestation Report of the Registered Public Accounting Firm

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Our management's report was not subject to attestation by our registered public accounting firm pursuant to temporary rules of the SEC that permit us to provide only management's report in this annual report.

Changes in Internal Control over Financial Reporting

Based on the evaluation conducted by our management, with the participation of our Chief Executive Officer and Chief Financial Officer, pursuant to Rules 13a-15(d) and 15d-15(d) promulgated under the Exchange Act, our management (including such officers) have concluded that there were no changes in our internal control over financial reporting that occurred during the period covered by this annual report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. RESERVED

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Our board of directors has determined that Mr. Arie Ovadia, who serves on the audit committee of our board of directors and who meets the "independence" definition under the Nasdaq Stock Market Listing Rules, qualifies as an "audit committee financial expert" as defined under the rules and regulations of the SEC.

ITEM 16B. CODE OF ETHICS

Our board of directors has adopted a code of ethics that applies to our chief executive officer, chief financial officer, controller, and other persons performing similar functions.

The code of ethics is posted on our website, addressed www.cgen.com.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table presents the fees paid to our external auditors for professional services rendered in the years ended December 31, 2009 and 2008:

	2009	**2008**
Audit Fees	$74,000	$87,000
Tax Fees	$6,000	$7,000
All Other Fees	$20,000	-
Total	**$100,000**	**$94,000**

"Audit Fees" are fees for professional services rendered by our principal accountant in connection with the audit of our consolidated annual financial statements and review of our unaudited interim financial statements;

"Tax Fees" are fees for services rendered by our principal accountant in connection with tax compliance, tax planning and tax advice; and

"All Other Fees" are fees for other consulting services rendered by our principal accountant to us including consent letters with respect to our Registration Statement on Form F-3 and prospectus supplement filings.

Policy on Audit Committee Pre-Approval of Audit and Non-Audit Services of Independent Accountants

The audit committee of our board of directors is responsible for the oversight of our independent accountants' work. The audit committee's policy is to pre-approve all audit and non-audit services provided by our independent accountants,

Kost Forer Gabbay & Kasierer, a member of Ernst & Young Global. These services may include audit services, tax services and other consulting services, as described above. Our audit committee sets forth the basis for its pre-approval in detail, listing the particular services or categories of services which are pre-approved, and setting forth a specific budget for such services. Additional services may be pre-approved by the audit committee on an individual basis. Once services have been pre-approved, our independent accountants and management then report to the audit committee on a periodic basis regarding the extent of services actually provided in accordance with the applicable pre-approval, and regarding the fees for the services performed. Such fees for 2008 and 2009 were pre-approved by the audit committee in accordance with these procedures.

In October 2009, our shareholders approved the engagement of Kost Forer Gabbay & Kasierer, a member of Ernst & Young Global, as our independent auditors for the fiscal year ended December 31, 2009 and until the next annual shareholder meeting. Such approval followed the pre-approval by our board of directors and audit committee of such engagement (in the case of the audit committee, as described above).

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

None.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

None.

ITEM 16 F. CHANGES IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

There are no significant differences between our corporate governance practices and those required of a U.S. domestic issuer under the NASDAQ Stock Market Listing Rules.

PART III

ITEM 17. FINANCIAL STATEMENTS

We have elected to provide financial statements and related information pursuant to Item 18.

ITEM 18. FINANCIAL STATEMENTS

See pages F-1 through F-27.

ITEM 19. EXHIBITS

Index to Exhibits

Exhibit Number	Description
*1.1	Form of Articles of Association of Issuer
12.1	Certification by Chief Executive Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) under the Exchange Act and Section 302 of the Sarbanes-Oxley Act of 2002.
12.2	Certification by Chief Financial Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) under the Exchange Act and Section 302 of the Sarbanes-Oxley Act of 2002.
13.1	Certification by Chief Executive Officer pursuant to Rule 13a-14(b)/Rule 15d-14(b) under the Exchange Act and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
13.2	Certification by Chief Financial Officer pursuant to Rule 13a-14(b)/Rule 15d-14(b) under the Exchange Act and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
15.1	Consent of Kost Forer Gabbay & Kasierer, a member of Ernst & Young Global, dated March 7, 2010.
15.2	Consent of Kesselman & Kesselman, member of PriceWaterhouseCoopers, independent auditors of Keddem Bioscience, dated March 7, 2010.

* Filed as an exhibit to our registration statement on Form F-1, registration number 333-12316, as amended, filed with the Securities and Exchange Commission, and is hereby incorporated by reference.

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

COMPUGEN LTD.

Signature:	\s\ Dr. Anat Cohen-Dayag
Name:	Dr. Anat Cohen-Dayag
Title:	President and Chief Executive Officer
Date:	March 11, 2010

Exhibit 12.1

CERTIFICATION PURSUANT TO
RULE 13a-14(a)/RULE 15d-14(a) UNDER
THE EXCHANGE ACT AND SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Dr. Anat Cohen-Dayag, certify that:

1. I have reviewed this annual report on Form 20-F of Compugen Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:

a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

c. evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation ; and

d. disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

b. any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

\s\ Dr. Anat Cohen Dayag

Title: President and Chief Executive Officer
Date: March 11, 2010

Exhibit 12.2

CERTIFICATION PURSUANT TO
RULE 13a-14(a)/RULE 15d-14(a) UNDER THE EXCHANGE ACT
AND SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Dikla Czaczkes Axselbrad, certify that:

1. I have reviewed this annual report on Form 20-F of Compugen Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:

a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

c. evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d. disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

b. any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

\s\ Dikla Czaczkes Axselbrad

Title: Chief Financial Officer
Date: March 11, 2010

Exhibit 13.1

CERTIFICATION PURSUANT TO
RULE 13a-14(b)/RULE 15d-14(b) UNDER THE EXCHANGE ACT
AND 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the annual report of Compugen Ltd. (the "Company") on Form 20-F for the fiscal year ended December 31, 2009 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I the undersigned, being the President and Chief Executive Officer of the Company, certify, pursuant to Rule 13a-14(b)/Rule 15d-14(b) under the Securities Exchange Act of 1934, as amended and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of Sections 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

\s\ Dr. Anat Cohen-Dayag

Title: President and Chief Executive Officer
Date: March 11, 2010

Exhibit 13.2

CERTIFICATION PURSUANT TO
RULE 13a-14(b)/RULE 15d-14(b) UNDER THE EXCHANGE ACT
AND 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the annual report of Compugen Ltd. (the "Company") on Form 20-F for the fiscal year ended December 31, 2009 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I the undersigned, being the Chief Financial Officer of the Company, certify, pursuant to Rule 13a-14(b)/Rule 15d-14(b) under the Securities Exchange Act of 1934, as amended and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of Sections 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

\s\ Dikla Czaczkes Axselbrad
Title: Chief Financial Officer
Date: March 11, 2010