COMPUGEN LTD
Form 20-F
March 21, 2013

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

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

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2012

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. 000-30902

_____

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:

Title of each class	Name of each exchange on which registered
Ordinary shares, par value NIS 0.01 per share	The NASDAQ Stock Market LLC (The NASDAQ Capital Market)

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:

36,590,478 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 x 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 x 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:

x Yes o 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).

x Yes o No

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
o	x	o

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

U.S. GAAP x

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 x 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”, "assume", “expect”, “anticipate”, “could”, “project”, “estimate”, “believe”, and “intend”, and describe about future events. We have based these forward-looking statements on information available to us on the date hereof, and on our current assumptions, 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

A. SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data 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, 2012 and 2011 and for the years ended December 31, 2012, 2011 and 2010 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, 2010, 2009 and 2008 and for the years ended December 31, 2009 and 2008 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,				
	2008	2009	2010	2011	2012
	(US$ in thousands, except share and per share data)				
Consolidated Statement of Operations Data					
Revenues	$338	$250	$1,115	$-	$242
Total operating expenses (1)	13,243	7,879	8,769	11,979	13,583
Operating loss	(12,912)	(7,629)	(7,878)	(11,979)	(13,542)
Financial and other income (expenses), net	401	3,786	675	(25)	(86)
Losses from continuing operations	(12,511)	(3,843)	(7,203)	(12,004)	(13,628)
Net loss	(12,527)	(3,831)	(7,203)	(12,004)	(13,628)
Unrealized gain (loss) on Investment in Evogene	3,222	3,594	2,716	(1,902)	1,103
Total comprehensive loss	(9,305)	(237)	(4,487)	(13,906)	(12,525)
Basic and diluted net loss per share	$(0.44)	$(0.13)	$(0.22)	$(0.35)	$(0.38)
Weighted average number of ordinary shares used in computing basic net loss per share	28,434,946	28,608,317	33,284,017	34,276,697	35,844,496
Weighted average number of ordinary shares used in computing diluted net loss per share	28,434,946	28,608,317	33,284,017	34,276,697	36,249,262

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	As of December 31,				
	2008	2009	2010	2011	2012
	(US$ in thousands)				
Consolidated Balance Sheet Data					
Cash and cash equivalents, short-term bank deposits, marketable securities and restricted cash	$ 7,481	$ 15,800	$ 22,508	$ 22,463	$ 19,685
Receivables on account of shares and from funding arrangement	-	7,790	5,000	-	-
Investment in Evogene	3,858	3,898	6,227	4,093	5,196
Total assets	14,244	30,185	36,458	29,081	28,909
Research and development funding arrangements and others	-	-	4,037	6,434	7,872
Accumulated deficit	(157,453)	(161,284)	(168,487)	(180,491)	(194,119)
Total shareholders' equity	$10,003	$27,398	$28,285	$19,581	$17,672

(1) Includes stock based compensation – see Note 10 of our 2012 consolidated financial statements.

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

B. CAPITALIZATION AND INDEBTEDNESS

Not applicable.

C. REASONS FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

D. RISK FACTORS

Many factors could affect our financial condition, cash flows and results of operations. We are subject to various risks all of which are inherent in pharmaceutical discovery and development and 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 accordingly 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.

Risks Related to our Business, 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, research revenues, milestones, 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) discovered pursuant to various forms of collaborations with such third parties whereby our discovery platforms or other discovery capabilities target areas of their interest. To date, third party arrangements with respect to product candidates discovered by us have only been entered into at an early, proof of concept stage which has an inherent risk of high

failure rate. Furthermore, these initial collaborations were based on product candidate discoveries, both therapeutics and diagnostics, that were made during the process of establishing individual predictive discovery capabilities prior to having a sufficiently broad and integrated infrastructure of such capabilities to allow a "Therapeutics Needs (market) driven" discovery process. Following establishment and validation of the required infrastructure, during 2010, a program was initiated to predict and select novel molecules in specific areas of high interest in both oncology and immunology. Therapeutic product candidates resulting from this "Therapeutics Needs (market) driven" effort are being validated and advanced forward in the preclinical stage prior to licensing or other collaborations (our "Pipeline Program"). To date, revenues related to our initial collaborations have been minimal, and we have had no revenues from our new Pipeline Program. 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, 2012, we had an accumulated deficit of approximately $194 million and had incurred net losses of approximately $7 million in 2010, approximately $12 million in 2011, and approximately $14 million in 2012. To date, we have received only minimal revenues from limited commercialization efforts with respect to molecules discovered during our infrastructure building period, and we expect to continue to incur net losses in the future due to the costs and expenses associated with our expanding research and development activities, including our recently initiated "Therapeutics Needs (market) driven" focused product candidate discovery, our increasing Pipeline Program activities, our Compugen USA Inc. activities, and the development, validation and integration of additional discovery platforms. To date no commercial arrangements have been established with respect to our Pipeline Program molecules. We cannot be certain that we will ever enter into such arrangements, or that such arrangements will provide sufficient revenues to achieve profitability, and even if we do achieve profitability, we may not be able to sustain or increase profitability.

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

We believe that our existing cash and cash equivalents and short-term bank deposits will be sufficient to fund our operations for at least the next 12 months. However, we cannot predict with any degree of certainty when, or even if, we will achieve profitability and therefore may need additional funds to continue financing our discovery, validation, development and commercialization activities. Additional funds, including proceeds from commercialization agreements or from the sale of shares we hold in Evogene Ltd. (traded on the TASE), or from our current ATM program or from other financings, may not be available to us when needed on acceptable terms, or at all. In addition, the terms of any financing may adversely affect the holdings or the rights of our existing shareholders. For example, if we raise additional funds by issuing equity securities, our existing shareholders would experience dilution of their shareholdings. Debt financing, if available, may involve restrictive covenants that could limit our flexibility in conducting future business activities. If we are unable to obtain funding on a timely basis, we may be required to significantly curtail one or more of our research or development programs. We also could be required to seek funds through arrangements with collaborators or others that may require us to relinquish rights to some of our technologies or product candidates on terms that would otherwise not be acceptable to us. Any failure to raise capital when needed would materially harm our business, financial condition and results of operations.

Our Pipeline Program will require additional resources that may not be available.

In 2010 we initiated our Pipeline Program pursuant to which we are both (i) substantially increasing the number of predicted and selected therapeutic candidates being evaluated by us, and (ii) taking certain therapeutic candidates beyond their validation stage (of either disease animal model for Fc fusion proteins or drug target expression profile for monoclonal antibodies ("mAbs") targets) into preclinical activities for Fc fusion proteins and to disease animal models for therapeutic mAbs against the targets, and in selected cases, possibly clinical evaluation. Assuming a similar level of success as we experienced in the past in the initial validation stages, this may result in multiple product candidates reaching more costly stages of development in parallel. If we are not able to secure the funding required for these more advanced activities, we may be required to abandon, postpone, or attempt to license out certain molecules at an earlier than anticipated stage, which may result in a substantial reduction in the potential returns from the Pipeline Program, or even result in the inability to have some or all of such successful "proof of concept" therapeutic candidates further developed and commercialized.

We operate in a rapidly developing field and will be required to allocate substantial additional funds in the future to our research activities.

Our drug and diagnostic product candidate discovery capabilities rely on a proprietary infrastructure of predictive models, algorithms and other computational tools incorporating proprietary knowledge of key biological phenomena. Life science today is a rapidly changing field with substantial research being undertaken on a worldwide basis both by academia and industry. In order to maintain our competitive position in predictive discovery, we must continue to allocate resources to broadening and deepening our scientific infrastructure. Any inability to allocate such resources when needed could materially harm our future business, financial condition and results of operations.

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

Our ability to generate revenues from collaboration and licensing activities for current and future product candidate discoveries, primarily in the form of fees, research revenues, milestones, royalties and other revenue sharing payments remains untested to date and we have received only minimal revenues from our initial collaborations, having recognized $1.1 million of such revenue in 2010, none in 2011 and $242,000 in 2012. Furthermore, only in 2010 did we implement our Pipeline Program pursuant to which we are advancing certain therapeutic product candidates past disease animal model proof of concept or other validation studies towards pre-clinical studies and in selected cases, possibly early stage clinical activities. Therefore we have no direct experience with respect to the financial terms that may be available for our candidates at these stages of development, and reported financial terms for agreements by other companies vary greatly and mostly are undisclosed. 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 fees, research revenues, milestones, or royalties and other revenue sharing payments from the licensing and commercialization of our product candidate discoveries, or from research and development collaborations, and therefore on the advisability of investing in our securities.

Risks Related to our Discovery and Development Activities

We are focusing our discovery activities on Fc fusion proteins, mAb drug targets, and mAb therapeutics, for uses in oncology and immunology, including both auto-immune and inflammatory disease. If we fail to continue to discover product candidates of industry interest in these fields, or to focus our Pipeline Program efforts on the most promising such discoveries, our business will likely be materially harmed.

In spite of the broad applicability of our discovery infrastructure, we have chosen to focus our discovery activities on Fc fusion proteins, mAb drug targets and mAb therapeutics for use in oncology and immunology, including both auto-immune and inflammatory conditions. By making this decision we have elected not to continue at present any internal development in other areas, such as diagnostic products and peptide based drugs, and to pursue such opportunities only in collaboration with third parties. Although certain of our initial discoveries in our fields of focus are generating interest from potential partners, all such candidates are at early stages of development, and there is no assurance that we will be able to consummate any collaboration or agreement on reasonable terms or at all. In addition, if we fail to continue to discover product candidates of industry interest in these fields, or to focus our Pipeline Program validation and development efforts on the most promising discoveries, our business will likely be materially harmed. There are many risks associated with this decision of focusing in these areas that include, among others:

- not utilizing all of our discovery capabilities;
- choosing therapeutic areas with a very high degree of competition;

- choosing therapeutic areas of great complexity and with very high failure rates in product development;

- failing to successfully focus our discovery infrastructure to discover novel product candidates in our chosen therapeutics areas;

- having insufficient relevant knowledge in our chosen therapeutic areas to select the right unmet needs or candidates, or to properly and efficiently further them in development

- the inherent risk of high program failure rate in early stage therapeutic development

In each case, our failure could be due to lack of experience or applying the wrong criteria, with the possible result that no selected candidates result in licensed or marketable products in these fields. If any of these risks should materialize, our business, financial condition and results of operations would be materially harmed.

Our predictive discovery capabilities remain unproven with respect to yielding marketable products. If in further development and clinical evaluation, all, or a larger percentage than typically seen in industry experience, of our product candidates fail to prove sufficiently safe and efficient for regulatory approval and marketing, our business will be significantly harmed.

Our in silico (by computer) predictive approach to drug discovery remains unproven with respect to yielding marketable products and to date, our validation efforts for our initial discoveries have been limited to in vitro testing and in vivo testing using animal disease models. These discovery capabilities, which are designed to predict and select potential product candidates in many different therapeutic and diagnostic areas of interest, rely on the modeling, by our scientists, of complex biological processes, both physiological and pathological. This modeling is partial and may prove insufficient to result in true predictions of the biological processes as they occur naturally. If in further development and clinical evaluation, all, or a larger percentage than typically seen in industry experience, of our initial product candidates fail to prove sufficiently safe and efficacious for regulatory approval and marketing, our business will be significantly harmed.

Our in silico predictive approach to drug discovery typically results in a significant number of putative discoveries of interest with each discovery program. If we or our partners fail to select the right candidates to validate and/or progress, due to either lack of experience or applying the wrong criteria, the selected candidates may never result in marketable products and our business, financial condition and results of operations will be materially harmed.

Our in silico predictive approach to drug discovery typically results in a significant number of putative discoveries of interest with each discovery program. Following each such discovery run, we assess which of such putative discoveries to move forward with initiation of validation based on various scientific and business criteria, and this assessment continues on an on-going basis. In addition, since our research and development resources are limited we are able to progress with only a fraction of our discoveries in parallel. If at any stage in such assessment, we or our partners fail to select the right candidates to validate and/or progress, due to either lack of experience or applying the wrong criteria, the selected candidates may never result in marketable products, and our business, financial condition and results of operations may be materially harmed.

If either the predictive discovery approach in general, or our “Therapeutics Needs (market) driven” approach, does not prove to be successful, our business will be significantly harmed.

Our method of discovering novel product candidates involves first selecting – either on our own or with a partner company - an unmet therapeutic need where we believe our predictive capabilities would be relevant, or could be modified to be relevant. In this “Therapeutics Needs (market) driven” approach, our goal is to harness all of our relevant capabilities in order to address the specific unmet need, rather than obtaining product candidates resulting from the development, validation or initial runs of a single discovery platform, as was the case prior to initiation of our Pipeline Program. After selection of the unmet need we wish to address, we then focus all of our discovery platforms, algorithms and other computational biology capabilities to predict in silico (i.e. by computer) sequences for a typically large number of possible product candidates. Next we utilize proprietary algorithms and tools and other methodologies to select, from this large number of possibilities, those novel molecules that we believe have the highest probability of success. Selected molecules are then produced and undergo in vitro and/or in vivo validation testing. Although our “Therapeutics Needs (market) driven” approach has resulted in the discovery of a number of novel molecules in an area of significant industry interest, these molecules are in the very early stages of development. Therefore, we cannot predict whether this “Therapeutics Needs (market) driven” approach will continue to yield product candidates or that any of our existing discoveries or future discoveries will be suitable for final development into therapeutic products. If either the predictive discovery approach in general does not prove to be successful, or this “Therapeutics Needs (market) driven” approach does not lead to successful product candidates, our business will be significantly harmed.

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Our focus on the Pipeline Program has resulted in a substantial increase in activities, certain of which we will undertake for the first time and may result in product candidate failures, or fewer molecules being available for commercialization.

Prior to 2010, Compugen's in vitro and in vivo validation studies concluded with disease animal model or drug target expression profile analysis. At the completion of such activities, or earlier, Compugen initiated its efforts to enter into collaborations for such molecules. This is at an earlier stage than is typical for licensing in the pharmaceutical industry. Pursuant to the Pipeline Program initiated in 2010, we have undertaken a substantial increase in the number of molecules being validated. In addition, certain molecules are now being advanced further towards pre-clinical activities, with the possibility of selected molecules entering clinical evaluation in the future. This decision to advance further with certain molecules is requiring us to undertake certain activities for the first time and may result in product candidate failures during such additional activities, either due to our lack of expertise or due to unsupportive findings. Furthermore, due to our limited resources, we must choose which Pipeline Program molecules we advance further towards pre-clinical, and in selected cases possibly clinical activities in the future. This could result in fewer molecules being available for commercialization, due to our available resources being insufficient to further advance all programs. In addition, if we fail to select the right molecules to advance further, due to either lack of experience or applying the wrong criteria, the selected candidates may never result in a marketable product. If any of these risks materialize, our business, financial condition and results of operations may be materially harmed.

We have limited experience in the development of therapeutic product candidates.

Our experience in the development of therapeutic product candidates is limited. In order to successfully develop and commercialize therapeutic products, 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 the required experience and expertise for the further development and commercialization of our therapeutic product candidates, we may be unsuccessful in these activities, and as a result our business would be materially harmed.

Our establishment of our own therapeutic mAb development capabilities contains a number of risks.

In 2012, we announced that we had established our own therapeutic mAb development capabilities, in order to develop mAb therapeutics against the target candidates that we discovered. The establishment of such in-house capabilities contains a number of risks, including, without limitation, the need for additional resources and funding in order to maintain such capabilities and the need to identify additional qualified employees and consultants in order to further advance these capabilities. Furthermore, although the scientists we have hired have prior experience with other organizations in the field of therapeutic mAbs development, we have no experience as a company in this field. In addition, following the establishment of our mAb operations, the chairperson of our wholly owned U.S. subsidiary, Compugen USA, Inc. assumed the additional position of chief executive officer of another mAb discovery and development company, which although not at present directly competitive, could present, in the future, potential conflict of interest issues.

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

We and our collaborators face a number of risks of failure that are inherent in the process of developing and commercializing therapeutic products. These risks, which typically result in a very high failure rate for even companies with a proven success record, include, among others, the possibility that:

- the product candidates will be found to be pharmacologically ineffective;

- the product candidates will be found to be toxic or to have other unacceptable side effects;
- the product candidates will not show added value compared to competing products;
- our mAb targets will prove to be inappropriate targets for mAb therapeutics;
- we or our collaborators will fail to receive required regulatory approvals;
- we will not be able to differentiate between some of our product candidates;
- we or our collaborators will fail to manufacture our product candidates in the quantity or quality needed for preclinical studies or clinical trials on a large scale in a cost effective manner;
- our early stage commercialization efforts may provoke competition by potential partners;
- 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 on the market, there will be little or no demand for it for a number of reasons including lack of acceptance by the medical community or by patients, lack of or insufficient coverage and payment by third party payors, or as a result of there being more attractive products available for use.

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

Under the agreements with Baize Investments (Israel) Ltd. entered in December 2010 and December 2011, as amended, we may have to share in any future economic success of certain product candidates.

We have entered into two agreements with Baize Investments (Israel) Ltd., or Baize, pursuant to which Baize has provided funding to Compugen in exchange for a future financial interest in certain product candidates. Under the first agreement we entered into with Baize on December 29, 2010 (hereinafter referred to as the 2010 Baize Agreement), Baize provided $5 million in funding and received the right to receive ten percent (which amount may be reduced under certain circumstances) of certain cash consideration received by us pursuant to any licenses for the development and commercialization of products developed from five designated product candidates then in our Pipeline Program. Under this agreement, at any time through June 30, 2013, Baize may waive in its entirety its right to receive the cash consideration in exchange for 833,333 of our ordinary shares.

Under the second agreement we entered into with Baize on December 20, 2011, as amended on July 24, 2012 and December 27, 2012 (hereinafter referred to as the 2011 Baize Agreement), Baize paid $3 million and has agreed to pay an additional $5 million or $7.5 million on or before April 30, 2013. In consideration for these funds, Baize has the right to receive a financial interest in six therapeutic mAb product candidates (if Baize pays an additional $5 million) or eight such candidates (if Baize pays an additional $7.5 million), in each case that achieve specific milestones or are licensed out prior to December 31, 2014, or such date as may be extended pursuant to the terms of the agreement. In addition, during the first quarter of 2015, Baize has the right to exchange its right to receive the financial interest in the therapeutic mAb product candidates for our ordinary shares pursuant to a formula based on the trading price of our ordinary shares at such time as set forth in the 2011 Baize Agreement. If Baize fails to make the required additional payment on or before April 30, 2013, we have the right to terminate the 2011 Baize Agreement and Baize will not be entitled to any financial interest in the mAb product candidates, other than a potential cumulative maximum total of $1.5 million on or after May 1, 2013.

If any of the product candidates designated under the 2010 Baize Agreement or the 2011 Baize Agreement are successfully licensed, developed or commercialized, and Baize has not elected to exchange its right to receive a financial interest under the related respective agreement as set forth above for our ordinary shares, we will need to provide Baize with a percentage of certain related potential cash consideration received by us, for such product candidates, thus reducing the amount of revenues from such transactions remaining for the benefit of our shareholders.

If Baize does not complete its payment obligations under the 2011 Baize Agreement, we may need to make up the cash shortfall from other sources.

Under the 2011 Baize Agreement as currently amended, Baize has agreed to pay Compugen an additional $5 million or $7.5 million on or before April 30, 2013. If Baize does not complete its payment obligations under this agreement, we may be required to utilize other cash resources to make up the shortfall, thus negatively impacting our financial strength and increasing the probability that we would need to raise additional capital.

Risks Related to Development, Clinical Testing and Government Regulation

We or our collaborators may be unable to obtain regulatory approval for any product that we or a collaborator may develop.

Any therapeutic product that we or our collaborators may attempt to develop will be subject to extensive governmental regulations, including those relating to development, performance of clinical trials, manufacturing and post-approval commercialization. Preclinical testing, manufacturing and controls and clinical trials, among other activities, will be subjected to an extensive regulatory review process before a new therapeutic product can be sold in the United States. Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. The time required to obtain United States Food and Drug Administration, or FDA, and other approvals for therapeutic products is unpredictable but typically exceeds several years.

Any therapeutic product that we or our collaborators may develop will also be subject to numerous foreign regulatory requirements governing the conduct of clinical trials, manufacturing and marketing authorization, pricing and third-party reimbursement among other things. The foreign regulatory approval process includes all of the risks associated with FDA approval described above as well as risks attributable to the satisfaction of local regulations in foreign jurisdictions.

Approval by the FDA of a therapeutic product does not assure approval by regulatory authorities outside the United States or vice versa. Therefore, it is possible that none of the therapeutic products we or our collaborators may develop will obtain the appropriate regulatory approvals necessary for us or our collaborators to sell them.

Furthermore, any regulatory approval to market a therapeutic product may be subject to limitations on the indicated uses. These limitations may limit the size of the market for the therapeutic product.

If we or our collaborators fail to obtain the appropriate regulatory approvals necessary for us or our collaborators to sell them, or if the approvals are for limited use, our business, financial condition and results of operations would be materially harmed.

It may be difficult to manufacture therapeutic products based on our technologies.

Our Pipeline Program is focused on protein and mAbs therapeutics in the fields of immunology and oncology. Protein and mAb-based therapeutics can be difficult to manufacture. If it should prove to be difficult to manufacture any therapeutics based on out technologies in sufficient quantities to conduct clinical trials and to commercialize any approved therapeutic candidate, our business, financial condition and results of operations would be materially harmed.

If we or our collaborators, or any third-party manufacturers with which we may enter into agreements in the future, fail to comply with regulatory requirements, we or they could be subject to enforcement actions, which could affect the marketability of Compugen-discovered therapeutics and may significantly harm our financial status and/or reputation.

If we or our collaborators or any third-party manufacturers with which we may enter into agreements in the future fail to comply with applicable federal, state or foreign laws or regulations, we or they could be subject to enforcement actions, which could affect the ability to successfully develop, market and sell therapeutic products based on our discoveries and could significantly harm our financial status and/or reputation and lead to reduced acceptance of such products by the market or product recall. These enforcement actions may include:

- warning letters;
- recalls, product seizures or medical product safety alerts;
- restrictions on, or prohibitions against, marketing such tests or products;
- restrictions on importation of such tests or products;
- suspension of review or refusal to accept or approve new or pending applications;
- withdrawal of product approvals;
- injunctions;

- civil and criminal penalties and fines; and
- debarment or other exclusions from government programs.

If we do not comply with laws regulating the use of human tissues or the conduct of experiments involving animals, our business could be adversely affected.

We use human tissue samples and conduct experiments involving animals for the purpose of development and validation of our technologies and product candidates. Our access to and use of human tissue samples and the conduct of experiments involving animals are subject to government regulation in the United States, Israel and elsewhere and may become subject to further regulation. For example, the Israeli Ministry of Health requires compliance with the principles of the Helsinki Declaration, the Public Health Regulations (Clinical Trials in Human Subjects) 1980, the Genetic Information Law, 5761-2000, the provisions of the Guidelines for Clinical Trials in Human Subjects and the provisions of the current Harmonized Tripartite Guideline for Good Clinical Practice. Our failure to comply with these or similar regulations could impact our business and results of operations.

If we do not comply with laws regulating the protection of the environment and health and human safety, our business could be adversely affected.

Our research and development activities involve the use of hazardous materials and chemicals, and we maintain quantities of various flammable and toxic chemicals in our facilities. Although we believe our safety and other procedures for storing, handling and disposing these materials in our facilities comply with applicable governmental regulations and guidelines, the risk to our employees or others of accidental contamination or injury from these materials cannot be eliminated. If an accident occurs, we could be held liable for resulting damages, which could be substantial. We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of biohazardous materials. We may incur substantial costs to comply with, and substantial fines or penalties if we violate any of these laws or regulations.

Risks Related to Our Dependence on Third Parties

Our reliance on third parties for the performance of key research, validation and development activities heightens the risks faced by our businesses.

We invest a significant amount of effort and resources into outsourcing certain key functions with third parties, including certain research, validation and development activities, manufacturing operations, and others. We do not control the third parties to whom we outsource these functions, but we depend on them to undertake activities and provide results which may be significant to us. If these third parties fail to properly perform these activities, or provide us with incorrect or incomplete results this could lead to significant delays in the program or even program failure, along with significant additional costs. In addition, should any of these third parties fail to comply with the applicable laws and regulations and/or research and development or manufacturing accepted standards in the course of their performance of services for us, there is a risk that we could be held responsible for such violations of law, as well. Any such failures by third parties could have a material adverse effect on our business, financial condition or results of operations.

We depend significantly on third parties to carry out the development and commercialization of our product candidates, and if we are unable to maintain our existing agreements or to enter into additional agreements with such third parties in the future, our business will likely be materially harmed.

Our primary strategy for the final development and commercialization of products based on our product candidates depends on third parties to carry out and/or finance development and commercialization of such products based on our product candidates, principally, pharmaceutical, biotechnology and diagnostic companies and other healthcare related organizations. To date, we have entered into a small number of agreements covering discovery activities to be performed by us, and development and commercialization rights with respect to certain of our discovery stage product candidates. None of the product candidates subject to such agreements has advanced beyond the discovery and early pre-clinical stage and we cannot be assured that any of these agreements will result in the successful development or commercialization of any products. Further, we cannot assure you that we will succeed in identifying additional suitable parties or entering into any other additional agreements for the development and/or commercialization of our product candidates. If we are unable to identify such additional suitable parties or enter into new agreements, our business will likely be materially harmed.

Our dependence on 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 in the future include, among others, the following:

- we may be unable to comply or fully comply with our obligations under 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;
- our collaborators may fail to design and implement appropriate preclinical and/or clinical trials;
- our collaborators may fail to manufacture our product candidates needed for either clinical trials or for commercial purposes on a sufficiently large scale and/or in a cost effective manner;
- our collaborators may fail to develop and market products based on our discoveries due to various regulatory restrictions;
- our collaborators may 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;
- we may not be able to control our collaborators' 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 business strategy may negatively affect its willingness or ability to complete its obligations under its arrangement or to continue with its collaboration 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 or 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 discoveries or product candidates to which they have obtained rights from us.

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

We rely on the services of various third party service providers, such as contract research organizations, or CROs, contract manufacturing organizations, or CMOs, technology providers, and academia. If we fail to identify and obtain quality services from such third parties, our discovery, and validation and development capabilities may be harmed.

In carrying out discovery, validation and development activities for our product candidates, we and our partners rely on advice, services and results obtained from various third party service providers, such as CROs, CMOs, technology providers, academia and regulatory and other consultants. This includes, without limitation, production of certain biological reagents and performance of certain in vitro and in vivo validation of our discoveries and product candidates. We do not always independently verify the results obtained by such third parties and in some cases, rely upon the data provided by the third party. If we fail to identify and obtain accurate and quality services and/or technologies from such third parties, or if the contractual demands of such third parties become unreasonable and we are not able to reach satisfactory agreements with such third parties, we may not be able to obtain the required services and/or technologies, in which event we may lose our investment in these services, fail to receive the expected benefits

from our discoveries, and our validation and development capabilities may be significantly harmed or delayed.

We have limited experience and capabilities in conducting, managing, or sponsoring preclinical evaluation of therapeutic drug candidates.

During 2010, we began to focus our discovery efforts primarily in the fields of immunology and oncology, and initiated the Pipeline Program to both substantially increase the number of molecules in our validation pipeline and to increase the value of certain of our candidates by advancing selected molecules to pre-clinical studies and in selected cases, possibly clinical evaluation. We have limited experience and capabilities in conducting, managing, or sponsoring the work and efforts required beyond the proof of concept experimental validation stage towards preclinical evaluation, and by doing so we will need to rely on our consultants and third party service providers. If we fail to identify the right consultants or service providers, if the consultants or service providers fail in providing the required services or if we fail to take the necessary steps towards preclinical evaluation, for these or other reasons, our business may be harmed.

We have no experience in conducting or managing clinical trials for potential therapeutic products.

We have no experience in conducting and managing the clinical trials necessary to obtain regulatory approvals for any product, and we intend to rely on our collaborators or third parties such as CROs, medical institutions and clinical investigators to perform these functions. Our reliance on third parties for clinical development activities reduces our control over these activities. Third-party contractors may not complete activities on schedule, or may not conduct clinical trials in accordance with regulatory requirements or our trial design. If these third parties do not successfully carry out their contractual duties or meet required performance standards or expected deadlines, we might be required to replace them or the data that they provide could be rejected, all of which may result in a delay of the affected trial and additional program costs.

We rely on access to public and commercial databases to feed our discovery capabilities, including our individual discovery platforms. If we are denied access to these databases or if the quality of available information is poor, or if the quantity of the available information is insufficient, as has occurred in the past, our operations and business may be harmed.

In the development and validation of our discovery platforms and other tools, as well as in connection with 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, tools 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, each of which has occurred in the past, our business and our results of operations may be materially harmed.

We rely on access to high-quality biological samples supported by detailed clinical records to conduct parts of our discovery and validation activities. 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, which has occurred in the past, our discovery and validation capabilities may be harmed.

In carrying out our discovery and validation of 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 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, which has occurred in the past, our discovery and validation capabilities may be harmed.

Risks Related to Competition and Commercialization

Our business model is at an early stage of implementation and to date has not provided significant revenues.

The success of our business model relies on providing, through licensing agreements and other forms of collaboration, product candidates for commercialization by third parties, principally pharmaceutical and biotechnology companies. In all cases, our objective is that these collaborations will be “product oriented”, with us having the right to receive fees, research revenues, milestones, and royalties and other revenue-sharing payments from all products developed and commercialized based on our product candidates. Additionally, we are continuing to seek research and discovery collaborations either aimed at harnessing our infrastructure capabilities towards the partners’ discovery needs, or pursuant to which we can license out our various non-focus specific discoveries of interest. Potential revenue sources in these types of transactions could include fees, research revenues, milestone payments and royalties. Our commercialization efforts are at an early stage of implementation. To date, we have entered into only a small number of collaboration agreements, none of which has to date provided significant revenues, and there can be no assurance

that such agreements will be successful in the future or that we will be able to enter into additional arrangements with respect to other current or future discoveries. If we are unable to achieve success, primarily with entering into license agreements or other collaboration arrangements related to our product candidates, or to enter into agreements with sufficient future returns, our business will be materially harmed.

In addition, most of our programs are in the discovery stage, with the leading program in the lead optimization stage. The data generated so far may not be sufficient to prospective collaborators, and may not fit their strategy. A limited number of companies are interested in early stage collaborations, and some of them will require more data before they enter into a significant collaboration. We are therefore dependent on the fit to pharma strategy and we may not be able to identify a partner interested in programs at the stage we are in. This 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.

The agreement cycle for potential collaborations is complex and lengthy and as a result, we may expend substantial funds and management resources with no assurance of success.

In general, each potential license agreement or other form of collaboration will require negotiating with our potential partner a large number of scientific, legal and business terms and conditions that can vary significantly in each instance due to the specific product candidate or candidates involved, and our potential partner's licensing, development and business operations and strategy. The accommodation of these requirements mandates a thorough consideration of both the scientific and business aspects of each transaction. Furthermore, the diversity and wide applicability of our discovery capabilities and our product candidates, together with the fact that we are located in Israel, adds additional levels of complexity to our business development efforts. As a result, the process of preparing and negotiating our licensing and other agreements may take more than 12 months and will require the input and substantial time and effort of our key scientific and management personnel. Accordingly, we will need to expend substantial funds and substantial key personnel time and effort into these business development activities with no assurance of successfully entering into agreements with potential collaborators and this could harm our business.

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. Although this consolidation trend is diminishing, it may still 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. In addition, if a consolidating company is already doing business with us, we may lose the interest of the consolidating parties in our discovery capabilities or individual discoveries as a result of a modified strategy and new priorities of such consolidated entity. 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.

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

The biotechnology and pharmaceutical industries in general, and the immune checkpoints field in particular, 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 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 they develop products that have a function similar or identical to the function of our therapeutic product candidates in the fields of oncology and immunology that may attract our potential collaborators or that may reach the market sooner. We also face, and expect to continue to face, competition from entities that seek to develop technologies that enable the discovery of novel Fc fusion proteins and antibodies in the

fields of oncology and immunology. Many of our competitors have:

- much greater financial, technical and human resources than we have at every stage of the discovery, development, manufacture and commercialization process;

- more extensive experience in preclinical testing, conducting clinical trials, obtaining regulatory approvals, and in manufacturing and marketing diagnostics and therapeutics;

- more extensive experience in oncology and immunology and in the fields of mAb therapy and proteins therapeutics;
- products that have been approved or are in late stages of development; and
- collaborative arrangements in our target markets with leading companies and research institutions.

Since we are a small company with limited human and financial resources, we are not able to work with a large number of collaborators in parallel and/or advance a large number of molecules in parallel. Our competitors may develop or commercialize products with significant advantages over any therapeutic products we, our collaborators or third-party licensees may develop. 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. Our competitors may therefore be more successful in developing and/or commercializing products than we, our collaborators, or third party licensees are, which could adversely affect our competitive position and business. If we are unable to compete successfully against existing or potential competitors, our financial results and business would be materially harmed.

Changes in healthcare policy could increase our expenses, decrease our revenues and impact sales of, and reimbursement for, our products.

Our ability to commercialize our future product candidates successfully, alone or with collaborators, will depend in part on the extent to which coverage and reimbursement for these product candidates will be available from government health programs, such as Medicare and Medicaid in the U.S., private health insurers and other third-party payors. At present, significant changes in healthcare policy, in particular the continuing efforts of the U.S. and foreign governments, insurance companies, managed care organizations and other payors to contain or reduce health care costs are being discussed, considered and proposed.

For example, in the United States, there have been several initiatives implemented to achieve these aims. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act(the “Healthcare Reform Act”), substantially changes the way health care is financed by both governmental and private insurers. The Healthcare Reform Act contains a number of provisions that are expected to impact our business and operations, including those governing enrollment in federal healthcare programs and reimbursement changes which will impact existing government healthcare programs and will result in the development of new programs.

In addition to the Healthcare Reform Act, there will continue to be proposals by legislators at both the federal and state levels, regulators and third-party payors to keep these costs down while expanding individual healthcare benefits. While in general it is too early to predict specifically what effect these acts and their implementation or any future healthcare reform legislation or policies in the U.S. or other countries will have on our business, including our ability to set prices for our product candidates which we believe are fair, and therefore our ability to generate revenues and achieve and maintain profitability, current and future healthcare reform legislation and policies could have a material adverse effect on our business and financial condition.

Risks Related to our Operations

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.

It can be difficult for us to find employees with appropriate experience for our business. We require a multidisciplinary approach and our researchers require experience in both exact and biological sciences. On average, our employees have been employed by Compugen eight years. 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.

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 fully 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 (partially or completely) proprietary information or cause interruptions in our operations. 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.

If we are unable to manage the challenges associated with our bi-national operations, the growth of our business could be limited.

In addition to our operations in Israel, our wholly owned subsidiary, Compugen USA Inc., operates in South San Francisco, California. We are subject to a number of risks and challenges that specifically relate to these bi-national operations. Our combined operations may not be successful if we are unable to meet and overcome these challenges, which could limit the growth of our business and may have an adverse effect on our business and operating results. These risks include:

- difficulty managing coordinating operations in multiple locations, which could adversely affect the progress of our development programs and business prospects;

- local regulations or intellectual property requirements that may restrict or impair our ability to conduct pharmaceutical and biotechnology-based research and development;

- foreign protectionist laws and business practices that favor local competition;

- laws and regulations governing U.S. immigration and entry into the United States that may restrict free movement of our employees between Israel and the United States;

- laws and regulations governing U.S. immigration and entry into the United States that may restrict employment of Israeli citizens in our U.S. facilities; and

- fluctuations in foreign currency exchange rates that may increase the U.S. dollar cost of our operations in either country.

Risks Related to Intellectual Property

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.

We have applied for patents covering therapeutic and diagnostic product candidates as well as aspects of some of our technologies, and the success of our business depends, to a large extent, on our ability to obtain and maintain such

patents and any additional patents covering our future product candidates. As of January 1, 2013 we had a total of 30 issued patents, of which 27 are U.S. patents. We also have pending patent applications, which as of January 1, 2013, included 21 patent applications that have been filed in the United States, 15 patent applications that have been filed in Europe, 12 patent applications that have been filed in Israel, seven patent applications that have been filed in Australia, seven patent applications that have been filed in Canada, three patent applications that have been filed in Japan, three patent applications that have been filed in India, two patent applications that have been filed in China and six 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, 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. Additionally, we file for patent protection in selected countries and not in all countries of the world. Therefore, we are exposed to competition in those countries in which we have no patent protection. Also, due to our early stage business model, we may be required to seek patent protection at a very early stage. This may cause issuance of a patent at an earlier stage creating a shorter commercialization period under patent protection, possibly enabling others to compete with us.

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 proteins, we face intense competition from other biotechnology and pharmaceutical companies who have already sought patent protection relating to proteins and protein based products, as well as therapeutic and diagnostic antibodies specifically binding these proteins, and their utilities based discoveries that we may intend to develop and commercialize; such prior patents may negatively affect our ability to obtain protein-based and antibody-based patents, may hinder our ability to obtain sufficiently broad patent claims for our inventions, and/or may limit our freedom to operate for our inventions;
- 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;
- there are significant costs that may need to be incurred in registering and filing patents; and
- our data may support others in strengthening their 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 could be materially harmed.

We may find that we file patent applications too early, thus having our proprietary information in the public too early which will may allow competition and shorten our programs' lead time. In addition, such premature filings could result in insufficient enablement of our inventions and consequently may hinder our ability to obtain valid patent claims for our inventions.

Because patent applications filed in the United States and Patent Cooperation Treaty countries publish 18 months after the priority date, the sooner an application is filed, the sooner a potential competitor will be able to access the information disclosed therein. Thus, early filing and subsequent early publication allows a potential competitor to begin developing competing work-around or generic products. Further, once a US application publishes, the file history becomes publicly available at the United States Patent and Trademark Office's patent application information retrieval (PAIR) website. Thus, potential competitors may access any statements we make in arguing patentability with the United States Patent and Trademark Office.

Additionally, prematurely filed applications may not be enabled for all that we wish to claim. The purpose of the enablement requirement that the specification describe the invention in such terms that one skilled in the art can make and use the claimed invention is to ensure that the invention is communicated to the interested public in a meaningful way. The information contained in the disclosure of an application must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention. Additionally, the written description requirement,

separate and distinct from the enablement requirement, necessitates that a patent specification describe the claimed invention in sufficient detail such that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. Early-filed applications may fail the enablement or written description requirement, or both, if they lack enabling or supporting data because it was not available at the time the application was filed. Such applications may not mature into patents.

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

Aside from our patented information, we also rely 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.

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 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 further required to:

- forgo the research, development and commercialization of certain therapeutic product 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 remains unavailable to the public for a period of approximately 18 months from the filing date. In some instances, the content of U.S. patent applications remains 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. 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 or obtain one or more licenses from the prevailing third party, which may not be available to us on commercially reasonable terms. 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.

Patent reform and other legislative changes in the U.S. and other countries may affect our ability to obtain and enforce our patents.

In 2011, the United States passed comprehensive patent reform laws in the "America Invents Act," or the "Act." These changes may affect our ability to obtain and enforce patents in a number of ways. First, the Act provides for a period of ex parte post-grant review with expanded grounds for challenging validity of a patent for 9 months after grant of a patent. If the validity of one of our U.S. patents is successfully challenged, some or all of the claims may be invalidated, such that we could not enforce the patent and hence could not protect one or more of our therapeutic product candidates. Other countries may also pass legislative changes to their patent laws which could materially affect – and even invalidate – one or more of our already filed patent applications, or even granted patents.

In a recent decision of the Israeli Supreme Court, the court has discussed whether an employee may waive his or her right to royalties or other compensation in respect of, or in connection with, service inventions created by such employee in the course of his or her employment, irrespective of such employee's employment agreement and/or undertaking for assignment of inventions. This question is currently pending before the Israeli Courts and ruling in this matter may expose us to royalty or other compensation payments to our employees (including former employees) the amount of which cannot be estimated at this point.

Increased progress in our scientific and technological environment may reduce our chances of obtaining a patent.

In order to obtain a patent to protect one of our therapeutic product candidates, we must show that the underlying invention (that is, the candidate itself or its use) is inventive. As an increasing amount of scientific knowledge is becoming available regarding genes, proteins and biological mechanisms, the bar is increasingly raised to show

sufficient inventiveness, as inventiveness is judged against all publicly available information available prior to filing of the patent application (the exact date may vary by country or due to other circumstances). We were initially pioneers in a largely unexplored field, but now there are many others working in our area. We may not be able to obtain patents for our product candidates due to the increased information published in this area. Collective patent applications, in which a large number of candidates are included in one patent application, are also challenged due to the raised bar for information that must be included in a patent application, as well as due to the availability of other publications. Our own published patent applications and other publications also serve as prior art against our new inventions and patent applications, and may also prevent us from obtaining new patents.

Confidentiality agreements with employees and others may not adequately prevent disclosure of trade secrets and other proprietary information.

In addition to patents, we rely on trade secrets, know-how and technology, not protected by patents, to maintain our competitive position. In order to protect our proprietary technology and processes, we rely in part on confidentiality agreements with our collaborators, employees, consultants, outside scientific collaborators and sponsored researchers and other advisors. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover trade secrets and proprietary information, and in such cases we could not assert any trade secret rights against such party. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

Risks Related to Operations in Israel

Holders of our ordinary shares who are U.S. residents may be required to pay additional U.S. income taxes if we are classified as a PFIC for U.S. federal income tax purposes.

There is a 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 of 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 (determined on a quarterly basis) of our total assets for the taxable year produce or are held for the production of passive income. Based on our analysis of our income, assets, activities and market capitalization, we do not believe that we were a PFIC for the taxable year ended December 31, 2012. However, there can be no assurances that the United States Internal Revenue Service ("IRS") will not challenge our analysis or our conclusion regarding our PFIC status. There is also a risk that we were a PFIC for one or more prior taxable years. If we were a PFIC during any prior years, U.S. holders who acquired or held our ordinary shares during such years generally will be subject to the PFIC rules. 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 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.

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

Our headquarter offices and part of our 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, as we have recently seen in Egypt, Syria and other neighboring Arab countries, may negatively affect business conditions and adversely affect our results of operations. In addition, Iran has threatened to attack Israel and is widely believed to be developing nuclear weapons. Iran is also believed to have a strong influence among extremist groups in the region. These situations may potentially escalate in the future and turn violent which could affect Israel and us. 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 and short-term bank deposits 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, or NIS. As a result, we are exposed to the risk that if the U.S. dollar devaluates against the NIS, our NIS denominated expenses will be greater than anticipated when reported in U.S. dollars. In 2010 the dollar devaluated against the NIS by 6.0%, in 2011 the dollar appreciated against the NIS by 7.7%, in 2012, again the dollar devaluated against the NIS by 2.3%, and as a result our NIS denominated expenses were affected by these fluctuations. Inflation in Israel compounds the adverse impact of any devaluation by further increasing the amount of our Israeli expenses. Israeli inflation may also (in the future) outweigh the positive effect of any appreciation of the U.S. dollar relative to the NIS, if, and to the extent that, it outpaces such appreciation or precedes such appreciation. The Israeli rate of inflation (2.7%, 2.2% and 1.6% in 2010, 2011 and 2012, respectively) has not had a material adverse effect on our financial condition during 2010, 2011 or 2012.

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

We may be entitled to benefit in the future from certain government programs and tax legislation, particularly as a result of the ‘Approved Enterprise’ status granted to our operation by the Investment Center in the Israeli Ministry of Industry, Trade and Labor and the ‘Benefiting Enterprise’ status that resulted in our currently being eligible for tax benefits under the Israeli Law for Encouragement of Capital Investments, 1959, as amended (the "Encouragement Law"). The availability of these tax benefits, however, is subject to certain requirements, as set forth in the Encouragement Law including, among other things, making specified investments in fixed assets and equipment, and financing a percentage of those investments with our capital contributions , as well as pursuant to Israeli intellectual property laws. The tax benefits that we anticipate receiving under our current “Approved Enterprise” and “Benefiting Enterprises” programs may not be continued in the future at their current levels or at all. To date we have not received any such tax benefits because we have not yet generated any taxable income.

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, except for one, are located outside the United States, it may be difficult to enforce a judgment obtained in the United States against us or any of our directors and officers in United States or Israeli courts based on the civil liability provisions of the U.S. federal securities laws and it may be difficult to enforce civil liabilities under United States federal securities laws in original actions instituted in Israel.

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 that acquisitions of shares above specified thresholds be conducted through tender offers, requires special approvals for transactions involving directors, officers or significant shareholders and regulates other matters that may be relevant to these types of transactions. Israeli tax considerations may also make potential transactions unappealing to us or to our shareholders whose country of residence does not have a tax treaty with Israel exempting such shareholders from Israeli tax or who are not exempt under the provisions of the Israeli Income Tax Ordinance from Israeli capital gains tax on the sale of our shares.

Furthermore, under the Israeli Encouragement of Research and Development in Industry Law, 1984 as amended ("R&D Law"), to which we are subject due to our receipt of grants from the Office of the Chief Scientist of the Israeli Ministry of Industry, Trade and Labor ("OCS"), a recipient of OCS grants such as us must report to the applicable authority of the OCS any change in the holding of the means of control of our company which transforms any non-Israeli citizen or resident into a direct interested party in our company.

These and other similar provisions could delay, prevent or impede an acquisition of us or our merger with another company, even if such an acquisition or merger would be beneficial to us or to our shareholders, and it may therefore limit the price that investors may be willing to pay in the future for our ordinary shares.

We received grants from the OCS that may restrict the transfer of know-how that we develop.

We have received research and development grants from the OCS. The transfer of know-how developed under the programs submitted to the OCS and as to which we received the grants, or rights to manufacture based on and/or incorporating such know-how to third parties, might require the consent of the OCS, and may require certain payments to the OCS. Although such restrictions do not apply to the export from Israel of the company's products developed with such know-how, they may prevent us from engaging in transactions with our affiliates or customers outside Israel, involving product or other asset transfers, which might otherwise be beneficial to us.

Being a foreign private issuer exempts us from certain SEC and NASDAQ requirements.

We are a "foreign private issuer" within the meaning of rules promulgated by the SEC. As such, we are exempt from certain provisions applicable to U.S. public companies including:

- the rules under the Exchange Act requiring the filing with the SEC of quarterly reports on Form 10-Q and current reports on Form 8-K;
- the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations in respect of a security registered under the Exchange Act;
- the provisions of Regulation FD aimed at preventing issuers from making selective disclosures of material information; and
- the sections of the Exchange Act requiring insiders to file public reports of their stock ownership and trading activities and establishing insider liability for profits realized from any "short-swing" trading transaction (a purchase and sale, or sale and purchase, of the issuer's equity securities within less than six months).

In addition, under the rules and regulations of The NASDAQ Stock Market, a foreign private issuer may follow its home country practice in lieu of certain NASDAQ listing requirements. For example, under NASDAQ's rules a company traded on the NASDAQ market is required to select director nominees either by independent directors constituting a majority of the board of directors or by a nominations committee comprised solely of independent directors. However, we have opted to follow our home country practice with respect to certain NASDAQ requirements. Because of these SEC and NASDAQ exemptions, investors are not afforded the same protections or information generally available to investors holding shares in public companies organized in the United States.

Risks Related to our Ordinary Shares

Sales of ordinary shares under our existing sales agreement with Cantor Fitzgerald & Co. or under our recently filed shelf registration statement will dilute existing shareholders.

On January 11, 2011 we filed a shelf registration with the SEC covering the offering and sale of up to $40 million of our securities, which became effective on January 21, 2011. On September 1, 2011 we filed a prospectus supplement in relation to a sales agreement with Cantor Fitzgerald & Co. In accordance with the terms of this agreement, we may offer and sell an aggregate of up to 6,000,000 of our ordinary shares, from time to time through Cantor Fitzgerald & Co., as our sales agent, provided that gross proceeds from the offering do not exceed $40 million. We may also sell

our ordinary shares to Cantor Fitzgerald & Co., as principal for its own account, at a price agreed upon at the time of sale. From January 10, 2012 through March 15, 2013, we had sold an aggregate of 2,411,050of our ordinary shares and received gross proceeds of approximately $13.4 million under this agreement. While there is no assurance that we will be able to sell additional shares covered under this agreement, any such additional sales will result in dilution to existing shareholders.

In addition, on January 7, 2013, we filed a shelf registration statement on Form F-3 with the SEC under which we may offer and sell from time to time in one or more offerings, our ordinary shares, debt securities, rights, warrants and units having an aggregate offering price of up to $100 million. This registration statement was declared effective by the SEC on January 16, 2013. While there is no assurance that we will sell any shares under this shelf registration statement, any such sales will result in dilution to existing shareholders.

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 calendar years 2011 and 2012, our stock price on NASDAQ has traded from a low of $2.96 to a high of $6.47 and trading volume is volatile from time to time. The volatile price of our stock and periodic 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 need to raise additional capital and our success or failure in doing so;
- 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 results of operations;
- changes in financial estimates by securities analysts;
- 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 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 volatility in their stock prices and/or difficulties in raising additional financing required to effectively operate and grow their businesses. Thus, market industry-wide fluctuations and political, economic and military conditions in the Middle East may adversely affect the trading price of our ordinary shares, regardless of our actual operating performance.

As a result of the volatility of our stock price, we could be subject to securities litigation, which could result in substantial costs and divert management’s attention and company resources from our business.

ITEM 4. INFORMATION ON THE COMPANY

A. HISTORY AND DEVELOPMENT OF THE COMPANY

History

Our legal and commercial name is Compugen Ltd. We were incorporated on February 10, 1993 as an Israeli corporation and have operated under the laws of the State of Israel, in particular the Israeli Companies Law, 5759-1999, as amended (the "Companies Law") since then. 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.

We have a wholly owned subsidiary, Compugen USA, Inc., which was incorporated in Delaware in March 1997 and is qualified to do business in California. This subsidiary did not have any significant operations between 2008 and March 2012.

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. ("Evogene"), a newly formed corporation in exchange for 1,640,000 ordinary shares of Evogene, representing 82% of such company's initial capital. Since 2002, Evogene has had several financing transactions whereby our shareholdings were diluted, and we extended certain licenses for which we were compensated in Evogene ordinary shares. Since June 2009, we sold a total of 1,106,603 of our Evogene ordinary shares for approximately $4.2 million. As of December 31, 2012, we held 1,043,397 Evogene ordinary shares representing approximately 2.8% of Evogene's then 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. These operations were subsequently transferred in 2004 to our then wholly owned subsidiary Keddem Bioscience Ltd ("Keddem"), where such operations were later suspended for financial reasons in 2007. On November 19, 2012 we signed an agreement with a private U.S.-based investment company pursuant to which up to $15 million in milestone related equity financing will be made available to Keddem. This financing will be used to further develop and commercialize Keddem's unique technology platform. Under the agreement, the new investor will obtain a majority equity interest in Keddem, with Compugen maintaining a minority interest and certain future preferential access rights to utilize the Keddem technology with Compugen discovered drug targets.

In June 2012, we established together with Merck KGaA and Merck Holdings Netherlands B.V. (collectively, "Merck") a new start-up company - Neviah Genomics Ltd. ("Neviah"), which is focused on the discovery and development of novel biomarkers for the prediction of drug-induced toxicity. Neviah operates out of the Merck Serono Israel Bioincubator. Pursuant to our agreement, Merck is providing the initial funding for Neviah and its expertise in the validation and development of biomarkers into a diagnostic test, and we are utilizing certain proprietary predictive discovery technologies and receiving research revenues for our efforts. The agreement provides Compugen with an equity ownership in the new company and a right to royalties from potential future sales.

Principal Capital Expenditures

In the years ended December 31, 2012, 2011 and 2010, our capital expenditures were $1 million, $96,000, and $46,000, respectively, and for the year 2012 were spent primarily on laboratory equipment, general computer software and hardware and leasehold improvements for our U.S. subsidiary. We have no current significant commitments for capital expenditures.

B. BUSINESS OVERVIEW

Overview

We are a leading therapeutic product discovery company focused on Fc fusion therapeutic proteins and monoclonal antibodies (mAbs), with novel mechanisms of action, to address important unmet needs in the fields of immunology and oncology. Our business model primarily involves early-stage collaborations covering the further development and commercialization of our discovered product candidates and various forms of research and discovery agreements, in both cases providing us with potential fees, research revenues, milestones, royalties and other revenue sharing payments. Oncology and immunology are both areas of complex and challenging diseases with significant unmet medical needs. Therefore, these are areas of high industry interest with numerous efforts to identify novel therapeutic solutions. Our science-driven predictive capabilities are well suited for the identification of novel therapeutic candidates for these complex, multi-factorial and challenging therapeutic fields. Our discovery efforts are based on systematic and continuously improving in silico (by computer) product candidate prediction and selection followed by experimental validation, with selected product candidates being advanced in our Pipeline Program. Our in silico predictive models utilize a broad and continuously growing infrastructure of proprietary scientific understandings and predictive platforms, algorithms, machine learning systems and other computational biology capabilities.

Our Pipeline Program, which was initiated in late 2010, consists of therapeutic product candidates at various stages ranging from target validation to pre-clinical studies. The aim of the Pipeline Program is to substantially increase the number of in-house discovered Fc fusion protein therapeutics and mAb targets in the fields of immunology and oncology in our validation pipeline and to advance selected molecules beyond their animal proof of concept stage. The newly discovered molecules enter the Pipeline Program when they begin experimental evaluation following their in silico prediction and selection. These molecules then undergo in-vitro and in-vivo experimental validation, with selected molecules eventually being advanced toward pre-clinical, and in selected cases possibly clinical activities. The experimental validation studies are conducted at the Company's facilities, or at leading expert laboratories, selected specifically for each relevant field. With respect to therapeutic protein product candidates that have either been or will be successfully validated in-vitro, these molecules are further advanced to in vivo proof of concept studies in disease animal models followed by the selection of the final therapeutic form of the molecule to be used at later development stages. In the case of drug targets for mAbs, additional target characterization and validation studies confirming the target's therapeutic potential are undertaken followed by the generation of a therapeutic mAb to be used for in vivo proof of concept studies in disease animal models. mAb molecules, either humanized or fully-human, selected to be advanced to Pre-IND studies, will then enter the stage of lead candidate selection and optimization. It is our intent, in general, to license out - or enter into other types of collaborations with our product candidates – during or towards the end of these product candidates' Pipeline Program activities, although in specific cases we may choose to retain certain molecules for further clinical development.

Our Discovery Infrastructure

Our proprietary underlying and growing predictive discovery infrastructure has been shown to be applicable for the discovery of product candidates in many different therapeutic and diagnostic areas. This infrastructure incorporates predictive understandings of numerous biological phenomena at the molecular level, including how genes express transcripts, how transcripts become proteins, and how proteins are cleaved to create peptides. These predictive understandings were accomplished during a decade-long and on-going research effort at Compugen and are based on sophisticated analyses of large amounts of data of various types, such as genetic, molecular, structural, clinical, biological pathways and others. This effort is performed on an on-going basis by an experienced multidisciplinary research team of scientists who on average have been employed by Compugen for eight years, and over time have generated more than 70 peer reviewed publications of certain of our findings and capabilities in scientific journals.

A key aspect of our capabilities is the increasing set of building block algorithms and other proprietary technologies for the accurate integration of the enormous amount of data from different sources which form the basis for our infrastructures, such as our core discovery infrastructure platforms, LEADS, MED and NexGen as described below. This has resulted in the ability to utilize this discovery infrastructure to provide output in the form of meaningful biological information, in addition to continuing the development and enhancement of the infrastructure itself. A further requirement of our discovery capabilities is the development of a set of query algorithms specifically designed for the prediction and selection of molecules that should address specific areas or needs. Such query algorithms are different for each of our growing list of individual discovery capabilities.

Following the prediction and selection of potential product candidates through use of this infrastructure, which is accomplished entirely by computer, the resulting predicted candidates are validated utilizing well-accepted laboratory experimental procedures, which in addition to providing validation of the candidates, also provide key information for further refining the query algorithms and other aspects of the infrastructure.

Infrastructure Platforms

An important aspect of our infrastructure development efforts was the creation of our three key infrastructure platforms, LEADS, MED and NexGen, which integrate our scientific understandings and predictive models. LEADS provides a comprehensive predictive view of the human transcriptome and proteome and enables the discovery of novel genes and proteins. MED provides a broad analysis of the expression levels of genes across a wide variety of tissues and disease states, and NexGen is designed to efficiently and accurately integrate and analyze a vast amount of Next Generation Sequencing data. These infrastructure platforms serve as key components first in the creation of our individual discovery platforms described below, and then in allowing us to approach unmet clinical needs through the integrated use of these infrastructure platforms with the discovery platforms, systems and tools developed by us during the last decade.

LEADS provides a comprehensive view of the human transcriptome, proteome, and peptidome and serves as a rich infrastructure for the discovery of novel genes, transcripts and proteins. This is the first infrastructure platform developed by us and it has been enhanced and improved for over a decade. LEADS provides precise gene, transcript, protein and peptide prediction through modeling of various biological phenomena such as alternative splicing, antisense, fusion gene, RNA editing and polymorphisms. LEADS serves as a rich and accurate database of thousands of proprietary and novel genes and proteins. The infrastructure is based on mapping of messenger RNAs, or mRNAs, and expressed sequence tags (ESTs) to the genome, followed by clustering of the sequences and assembly of the gene structure and all possible mRNA transcripts and resulting proteins, through a multistep predictive analysis process. LEADS includes proprietary algorithms developed at Compugen and public and proprietary input data. This combination of proprietary algorithm tools and data, public and proprietary, allows us to identify previously unknown proteins and transcripts.

MED is an in silico disease expression database integrating more than 70,000 microarray experiments which are grouped into approximately 1,400 sets. Each set is a unification of different experiments of tissues with the same clinical relevance (i.e. normal tissues, malignant tissues, tissues from drug treated patients). In contrast to a commonly-used single experiments analysis approach, through MED the results from all 70,000 microarray experiments are integrated via a sophisticated procedure that we developed and are then unified into a "virtual" or in silico chip. The “virtual” chip allows us to analyze the expression of genes across all 1,400 conditions and tissues based on the results from the 70,000 experiments simultaneously. This integrated analysis allows a broad view of the expression profile of a single gene over thousands of experiments and multiple tissue types. It also 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 and thus superior accuracy. The fact that the platform integrates data from many sources and experiments gives robust results. MED’s in silico discoveries have been experimentally validated repeatedly over the years with expression data obtained in-house by a quantitative expression assay system, qRT-PCR, on established controlled and independent mRNA tissue panels.

NexGen is designed to analyze Next Generation Sequencing data which is now beginning to be generated worldwide through RNA-Seq methodology. RNA-Seq is a new and powerful ultra-high throughput approach to provide raw data for transcriptome analysis and expression profiling. Although this new approach provides a massive amount of data in the form of very short partial transcript sequences, it also creates an extremely challenging environment for obtaining meaningful and accurate information. Our NexGen Platform, which incorporates advanced algorithms and other proprietary tools, is designed to efficiently and accurately integrate and analyze this vast amount of short sequence data. The integration of this capability with our discovery infrastructure, mainly our predictive transcriptome and proteome, is expected to provide us with both enhanced identification of novel genes and splice variants, and a broader view of the expression levels of RNA transcripts, facilitating new associations to pathological or healthy conditions. These new integrated capabilities should provide us with further substantial advantages in predictive discovery of potential drugs and drug targets, and also in the discovery of potential diagnostic product candidates.

Discovery Platforms

Each of our individual discovery platforms targets a specific area or type of molecule and consists of three modules: prediction, selection and validation. The first two modules are accomplished by computer, while the third module involves laboratory based in-vitro and in-vivo experimental validation of selected candidates. In general, the prediction and selection modules utilize our discovery infrastructure to predict putative product candidates for a defined unmet need.

Our current key individual discovery capabilities are:

- mAb Target Discovery: This platform relies on both the LEADS and MED infrastructure platforms and utilizes query algorithms focused on the discovery of targets suitable for mAb technology based on statistical analysis of expression data provided by these platforms. Compugen's mAb Target Discovery capability has been expanded beyond the initial focus on various solid tumors such as lung, ovarian, breast, colorectal and hematological cancers. New field extension modules have been added, which are now enabling the discovery of drug targets involved in drug response, metastatic stage cancer, and additional cancers such as melanoma, renal, liver, and pancreatic.

- Protein Family Members Discovery Platform: This platform incorporates both LEADS and MED infrastructure capabilities for the discovery of novel protein members belonging to various known and clinically important protein families. Since most traditional approaches for identifying such novel members are largely based on sequence homology, the set of query algorithms designed for this platform first identifies other types of characteristics that are shared between known members of the family of interest, and then selects proteins from the LEADS proteome that share these characteristics and therefore could potentially be unknown family members.

- Protein-Protein Interaction Blockers (PPI Blockers): This platform integrates both protein sequence information and protein structural data from protein-protein interaction structures. Key algorithms and machine learning predictors are used to create a predicted protein-protein interaction map for the protein target of interest and for identifying key protein-protein interaction sites.

- Splice Variant Based Therapeutic Proteins: This platform relies on the LEADS infrastructure platform to analyze databases of sequence data, mainly ESTs (Expressed Sequence Tags – short sub-sequences of a transcribed nucleotide sequence) to predict the full collection of human transcripts and proteins (Compugen's predictive proteome), among them many potential novel splice variants. A set of query algorithms is used to select potential therapeutic proteins.

Validation Based (Technology Driven) Discoveries

A result of the decade long and continuing establishment of our discovery infrastructure was the validation of each of our discovery platforms as listed above. This validation, and in some cases only initial runs of the discovery platform, resulted in the "technology driven" discovery of multiple novel molecules in a broad range of therapeutic and diagnostic fields, such as oncology, immunology, cardiovascular, ocular diseases and more. Although individual discovery capabilities are in general broad and not limited to a certain indication or therapeutic field, during 2010, we elected to focus our discovery efforts on novel product candidates for unmet medical needs in oncology and immunology through a "Therapeutics Needs (market) driven" approach. The aim of this approach is to harness all of our capabilities against each such unmet medical need, instead of relying on a single discovery platform as was the case with our platform validation stage discoveries. In addition, at that time, a decision was made to seek arrangements for certain of our initial technology driven discoveries that were outside our then elected focus areas whereby they would be developed and commercialized by third parties, but with Compugen sharing in any future revenues. See "Commercialization".

Therapeutic Needs (Market) Driven Discovery

Focus Area – Immune checkpoints

Immunology and oncology are two medical fields with significant unmet medical needs. Biological drugs have already revolutionized patients' treatment in these areas and have gained significant commercial successes. Compugen has therefore elected to address the unmet needs in these areas by development of therapeutic proteins and mAbs

based on the company's predictive capabilities.

Modulation of the immune system has shown clinical success in several therapeutic applications, such as treating various types of cancer, inhibiting autoimmune diseases and prolonging graft survival in organ transplant recipients. This clinical significance is the basis for the increasing interest in the discovery and development of immunomodulators for therapeutic uses, and the rationale behind Compugen's first therapeutic needs driven efforts: the identification of novel immune checkpoint proteins that can be engineered to produce therapeutic proteins candidates or serve as targets for therapeutic mAbs discovery.

Immune checkpoints: Immune checkpoints are inhibitory receptors and their ligands, which are crucial for the maintenance of self-tolerance (that is, the prevention of autoimmunity) and for the protection of tissues from damage when the immune system is responding to pathogenic infection. In several autoimmune diseases, including for example multiple sclerosis and rheumatoid arthritis, self-reactive T cells escape immune checkpoints and autoimmune responses ensue. Therefore, restoring immunologic balance by activating immune checkpoints and regulatory immune cells is a promising avenue for the treatment of autoimmunity.

Immune checkpoints also play critical roles in cancer development as they are "highjacked" by tumors to block the ability of the immune system to destroy the tumor (“immune resistance”). Immune checkpoints have lately emerged as potential "game changers" and promising targets for cancer immunotherapy. Clinical studies employing mAb blockade of immune checkpoints, such as PD-1 and CTLA4, have shown unprecedented durable responses. Antibodies targeting immune checkpoints have been thus termed “the next frontier" in the treatment of cancer.

A key capability in this field was the development and use of our Protein Family Members Discovery Platform for the discovery of novel protein members belonging to various known and clinically important protein families. This discovery platform incorporates two key Compugen proprietary infrastructure capabilities: LEADS and MED. Specialized algorithms designed for identification of the unique characteristics of specific protein families, utilizing LEADS and MED, analyze the entire proteome to search for novel proteins belonging to a desired family. This platform concept was initially developed for the identification of novel immunomodulators which can serve as protein therapeutics for various pathological conditions, and more specifically, the B7/CD28 protein family of costimulators/coinhibitors. The reason we focused initially on this protein family is that B7/CD28 proteins are known to play key roles in regulating immune responses and serve as immune checkpoints. New proteins of this family could have significant therapeutic potential in many pathological conditions, including autoimmune diseases and cancer. Applying the Protein Family Members Discovery Platform resulted in the identification of several putative immune checkpoint B7/CD28-like membrane proteins. Among those disclosed are CGEN-15001T, CGEN-15022, and CGEN-15092. Their respective fusion proteins CGEN-15001, CGEN-15021 and CGEN-15091 are genetically engineered proteins consisting of the extracellular region of the immune checkpoint membrane proteins fused to an Fc antibody domain. CGEN-15001 was the first of these predicted molecules to undergo extensive in-vitro and in-vivo validation, demonstrating robust efficacy in animal models, pointing to its therapeutic potential for treatment of multiple autoimmune diseases. Two additional proteins disclosed in 2011, CGEN-15021 and CGEN-15091, have also been validated and shown to have beneficial effects in animal models of autoimmune diseases. In 2012, Compugen disclosed two additional Fc fusion proteins, CGEN-15031 and CGEN-15051 with positive initial results in animal models of autoimmune diseases. The experimental data on Compugen’s Fc fusion proteins demonstrate their therapeutic potential in treatment of autoimmune diseases and inflammatory conditions, such as multiple sclerosis and rheumatoid arthritis.

Compugen newly discovered immune checkpoints have been shown to be expressed in cancer tumors substantiating their potential as mAb targets for cancer immunotherapy. CGEN-15001T is expressed on numerous types of solid cancers and hematological malignancies, such as prostate cancer, melanoma, Hodgkin's lymphoma and Non-Hodgkin's lymphoma. CGEN-15022 is expressed in numerous types of epithelial cancers with significant unmet clinical needs, such as liver, colorectal, lung and ovarian cancers. The different expression profiles of CGEN-15022 and CGEN-15001T not only provide important differentiating characteristics between these two novel targets, but also offer promising potential to utilize these proteins as mAb targets to treat a broad set of key cancer indications with significant unmet medical needs.

Compugen disclosed in 2012 that two additional immune checkpoint targets have been shown to be expressed in multiple types of tumors. These immune checkpoint proteins were shown to have an immunomodulatory activity affecting both innate and adaptive immune responses, thus providing additional opportunities for an efficient targeted approach in cancer treatment. By offering a different mode of action from Compugen's other immune checkpoint

candidates, these protein targets further broaden the scope of the Company's Pipeline Program for monoclonal antibody treatment of cancer.

Additional oncology targets

Our therapeutic need driven discovery program is also aimed at the identification of additional novel cancer targets for mAb therapy, including drug resistant and advanced stage cancer. Novel cancer targets, such as membrane proteins found on cancer tumors, provide attractive targets for antibody therapeutics. A major challenge is the discovery of such targets that are appropriate for mAb therapy, for example those proteins that are highly expressed in tumor tissue but show low expression in normal tissues. This is accomplished by the use of the mAb Target Discovery Platform. Implementation of the platform has resulted to date in multiple discoveries. These include CGEN-928 which is uniquely expressed in advanced, drug-resistant or aggressive multiple myeloma and CGEN-671, a mAb target for multiple epithelial cancers including colorectal, breast and lung carcinomas.

Pipeline Program

Overview

During 2010, we broadened our approach to drug target and drug discovery, moving from a "technology driven" individual platform capability approach to a "Therapeutics Needs (market) driven" approach. In this "Therapeutics Needs (market) driven" approach we harness all of our relevant platforms and other capabilities towards a selected unmet need in order to predict and validate novel molecules that we believe have the highest probability of leading to successful targeted medicines for that need. In late 2010 we initiated our Pipeline Program, pursuant to which we have both (i) accelerated the number of predicted and selected product candidates being evaluated by us, primarily in our fields of focus, and (ii) taken certain product candidates further beyond their proof of concept into preclinical activities, and in selected cases possibly clinical activities.

The Pipeline Program is now focused on protein and mAbs therapeutics in the fields of immunology and oncology. Selection of these focus areas is based on our "Therapeutics Needs (market) driven" approach, as both are of high industry interest with significant unmet medical needs. Moreover, these complex disease areas are well suited for our broad in-silico capabilities and therefore we can make significant innovative discoveries in these areas.

Our initial efforts with respect to "Therapeutics Needs (market) driven" discovery were focused on immune checkpoints, specifically the B7/CD28 co-stimulatory/co-inhibitory family of proteins, that are of high interest to the industry and have therapeutic potential in autoimmune diseases and/or cancer. CGEN-15001 and CGEN-15001T are examples of this effort. The discovery by Compugen of CGEN-15001T, a new B7/CD28 like immune checkpoint protein, created the opportunity to develop a therapeutic protein, CGEN-15001, which has demonstrated therapeutic potential in animal models of autoimmune diseases. CGEN-15001T is being used by Compugen as a target for mAb therapy with a potential for treating various cancers.

The initial results of our immune checkpoint candidates and the high industry interest in this class of proteins, have led us to expand our discovery efforts in this area to the identification of additional sets of immunomodulatory proteins, beyond the B7/CD28-like family. In 2011, we developed two, as yet undisclosed, discovery platforms based on new approaches and algorithms to predict such novel immunomodulatory proteins. These platforms completed their in silico validation stage and have already predicted several novel immunomodulatory proteins, which have entered initial validation studies as protein therapeutics in immunology.

Therapeutic proteins in the Pipeline Program

Therapeutic proteins are large biological molecules usually produced by recombinant technologies. Therapeutic proteins are clinically used to treat a wide range of diseases including cancer, autoimmune diseases, infectious diseases, blood-related disorders and others. Compugen's therapeutic proteins are created by fusing the extracellular domain of a newly discovered membrane protein to an Fc fragment of an antibody. This class of therapeutic proteins is known as Fc fusion proteins. Therapeutic Fc fusion proteins have gained significant clinical and commercial success as exemplified by the anti-rheumatic biologics ENBREL® (etanercept) with sales of about $8.53 billion in 2012, and ORENCIA® (abatacept) with about $1.2 billion in sales in 2012. Compugen's therapeutic proteins pipeline includes CGEN-15001, CGEN-15021, CGEN-15091, CGEN-15031 and CGEN-15051. Additional undisclosed product candidates in the Pipeline Program are based on the B7/CD28-like family proteins discovered by Compugen, and additional immunomodulatory proteins, which are undergoing validation studies.

Selected therapeutic pipelines products include:

CGEN-15001 is a novel protein which has shown therapeutic potential for the treatment of autoimmune disorders. CGEN-15001 is an Fc fusion protein consisting of the extracellular region of CGEN-15001T, a B7/CD28-like protein discovered by Compugen, fused to an antibody Fc domain. In vitro, CGEN-15001 inhibits naïve and effector T cell activation and also the differentiation of the pro-inflammatory T helper cells Th1 and Th17. It also promotes anti-inflammatory Th2 responses. This phenomenon, known as Th1/Th2 shift, can be therapeutically beneficial in the treatment of T cell mediated autoimmune diseases such as multiple sclerosis, rheumatoid arthritis, diabetes type 1, psoriasis and others. In vitro, CGEN-15001 was also shown to promote differentiation of induced regulatory T cells (iTregs), which can be beneficial for treatment of autoimmunity. In an animal model of multiple sclerosis, short term treatment with CGEN-15001 at onset of remission resulted in long-term inhibition of disease symptoms and relapses. Further research on the effect of CGEN-15001 in multiple sclerosis animal models suggests that it exerts its beneficial therapeutic effect by modulating the immune system through the Th1/Th2 shift, inhibiting epitope spreading, the underlying phenomenon which causes the relapsing nature of the disease, and preventing infiltration of reactive immune T cells into the central nervous system. Treatment with CGEN-15001 did not promote viral infection in a viral induced EAE model suggesting lack of global immunosuppression. Overall, these results indicate that CGEN-15001 may prevent disease progression by immune tolerance induction, a process whereby the immune system no longer attacks the self-antigens that cause the disease. Modifying such diseases through immune tolerance induction is a promising mode of action that may result in more effective drugs for autoimmune diseases. CGEN-15001 was also demonstrated to have a therapeutic effect in an animal model of rheumatoid arthritis. In this animal model, CGEN-15001 showed efficacy similar to that observed through TNF-alpha blockade with TNFR-Fc, ENBREL®, a widely used biologic disease modifying anti-rheumatic drug.

The only FDA approved therapeutic agent for autoimmune diseases based on the B7/CD28 protein family is ORENCIA® (abatacept). Abatacept, approved for treatment of rheumatoid arthritis, is an Fc fusion protein consisting of the extracellular domain of the T cell receptor CTLA4 fused to antibody Fc domain (CTLA4-Ig). Abatacept is targeting two known B7 proteins on antigen presenting cells (APCs) thus blocking their interaction with the CD28 receptor on T cells. Interaction of CD28 with the B7 proteins on APCs is required for activation of T cells. Blockade of this interaction leads to attenuation of immune responses. CGEN-15001 is believed to act differently than abatacept by directly interacting with T cells through as yet unidentified receptor to deliver a negative signal. This leads to inhibition of T cells activation and downstream inflammatory responses. In an EAE multiple sclerosis model similar efficacy of CGEN-15001 and murine CTLA4-Ig were observed following therapeutic administration of the proteins. Taken together, the results obtained for CGEN-15001 indicate its therapeutic potential for treatment of multiple autoimmune diseases and inflammatory conditions, such as multiple sclerosis and rheumatoid arthritis. CGEN-15001 is currently in lead candidate selection stage.

CGEN-15021 is a novel fusion protein with demonstrated efficacy in animal models of autoimmune disorders. CGEN-15021 is an Fc fusion protein consisting of the extracellular domain of CGEN-15022 discovered by us to be a B7/CD28-like immune checkpoint protein using the in-silico Protein Family Members Discovery Platform. In cell-based experiments, CGEN-15021 was demonstrated to inhibit activation of immune T cells. CGEN-15021 was further successfully tested in animal disease models of both multiple sclerosis and rheumatoid arthritis. In the multiple sclerosis model, short-term treatment with CGEN-15021 of animals with an established disease resulted in long-term amelioration of clinical symptoms. Treatment with CGEN-15021 also inhibits epitope spreading that underlies the relapsing nature of the disease. In the rheumatoid arthritis model, CGEN-15021 reduced clinical symptoms and histological damage to the diseased joints similarly to ENBREL®. This data suggests the potential utility of CGEN-15021 for the treatment of multiple sclerosis, rheumatoid arthritis and other autoimmune diseases.

CGEN-15091 is a novel fusion protein with demonstrated efficacy in an animal model of multiple sclerosis and potential in treating additional autoimmune diseases. It is an Fc fusion protein consisting of the extracellular domain of CGEN-15092, a protein discovered by Compugen to be B7/CD28-like using the in-silico Protein Family Members Discovery Platform. In vitro, CGEN-15091 was demonstrated to inhibit activation of immune T cells. CGEN-15091 was further successfully tested in an animal model of multiple sclerosis. Short-term treatment with CGEN-15091 at onset of remission provided long-term amelioration of clinical symptoms and inhibited epitope spreading underlying the relapsing nature of this experimental disease. These results suggest the therapeutic potential of CGEN-15091 for the treatment of multiple sclerosis and potentially additional autoimmune diseases.

CGEN-15031 and CGEN-15051 are two Fc fusion protein candidates with initial validation in animal models of autoimmune diseases. These two novel Fc fusion proteins are based on two distinct B7/CD28-like proteins discovered by Compugen. Each fusion protein combines the extracellular domain of one of the membrane proteins and an Fc antibody fragment. CGEN-15031 was tested in an animal disease model of multiple sclerosis and CGEN-15051 in a model of rheumatoid arthritis. Each of these fusion proteins ameliorated disease symptoms in the respective model.

Monoclonal Antibody Therapy

Monoclonal antibody (mAb) therapy is a class of biological drugs that bind with high specificity to target cells or proteins. Due to the versatility and specificity of this approach, mAb therapies are being intensively researched and developed as treatments for numerous serious diseases with the expectation of higher efficacy and fewer side effects compared to traditional chemical drugs. During the past two decades, mAbs have emerged as an important new and rapidly growing drug class, with over 20 mAbs already approved for therapeutic use in the U.S. for various clinical indications, including oncology, chronic inflammatory diseases, transplantation, infectious diseases and cardiovascular diseases. For cancer therapy, a mAb may inhibit cellular processes critical for tumor growth, stimulate the patient's immune system to attack the target cancerous cells, or be used for targeted delivery of chemotherapy specifically to the cells identified by the antibodies (known as ADC technology, Antibody Drug Conjugate). DataMonitor estimated the global monoclonal antibodies market to surpass $65 billion by 2016. Moreover, according to an analysis done by Tufts University, the rate of success for mAb therapeutics from first use in humans to regulatory approval is more than double that of traditional chemical drugs.

Although significant progress has been made in recent years in mAb therapeutics, numerous challenges still remain. One of the main challenges in this extremely promising field is the identification of novel targets for mAb therapy. To this end, we have developed several proprietary target discovery queries through the focusing and integration of various aspects of our unique predictive discovery capabilities to identify novel drug targets.

The Pipeline Program consists of mAb targets discovered by our Monoclonal Antibody (mAb) Targets Discovery Platform and our Protein Family Members Discovery Platform. Disclosed candidates include CGEN-15001T, CGEN-15022, CGEN-671, and CGEN-928. Additional undisclosed mAb targets in the Pipeline Program are based on the B7/CD28-like family proteins as targets for cancer immunotherapy and additional cancer targets, which are undergoing validation studies.

Selected mAb targets include:

CGEN-15001T is a membrane protein which was predicted by Compugen through use of the Protein Family Members Discovery Platform to be a B7/CD28-like immune checkpoint protein. CGEN-15001T was shown to be expressed in solid cancers and hematological malignancies, such as prostate cancer, melanoma, Hodgkin’s lymphoma and Non-Hodgkin’s lymphoma, such as T and B cell lymphomas. CGEN-15001T is also expressed on immune cells residing within the tumor. This expression profile suggests a potential immunomodulatory role for CGEN-15001T in cancer therapy that is further supported by the immunomodulatory results obtained with CGEN-15001, suggesting that CGEN-15001T may help the cancer “silence” the immune responses towards the cancer cells. Blocking this function of CGEN-15001T through therapeutic antibodies has the potential to remove the suggested silencing effect of CGEN-15001T on the tumor, and could therefore enable the immune system to attack and destroy the tumor, thus serving as a promising potential approach for cancer immunotherapy.

CGEN-15022, is a membrane protein which was predicted by Compugen through use of the Protein Family Members Discovery Platform to be a B7/CD28-like immune checkpoint target for treatment of multiple cancers. Protein expression studies indicate that CGEN-15022 is expressed on numerous types of epithelial cancers with significant unmet clinical needs, such as liver, colorectal, lung and ovarian cancers. This expression profile, together with previously disclosed results pointing to its negative costimulatory activity, through preclinical data obtained for CGEN-15021, support CGEN-15022’s potential as a drug target for treatment of these cancers through mAb therapy.

CGEN-671, a novel drug target for treatment of multiple epithelial tumors, is a membrane splice variant of CD55, a GPI-anchored protein that is involved in the regulation of the complement cascade. The potential application of CGEN-671 as a drug target was initially predicted in silico through the use our of mAb Targets Discovery Platform.

Protein expression studies performed on colon, breast, lung and gastric cancers demonstrated high overexpression of CGEN-671 in the cancer tissues, while CGEN-671 exhibited low expression levels in most of the normal tissues. The expression levels of CGEN-671 in cancer and healthy tissues suggest potential for CGEN-671 as a drug target for clinical development of mAb drug therapy for various types of epithelial cancers such as colorectal, breast and lung carcinomas.

CGEN-928, a new drug target for the treatment of multiple myeloma, or MM, is a membrane protein which was predicted through the use of our mAb Targets Discovery Platform. CGEN-928 is uniquely present in advanced disease stages of MM as well as in drug-resistant and aggressive MM, indicating potential targeting of the more aggressive disease stages and types, currently an unmet medical need. Initial studies demonstrated that a polyclonal antibody which specifically recognizes CGEN-928 decreases MM tumor cell line proliferation and induces apoptosis, at certain antibody concentrations, alone and in combination studies with standard of care drugs. The overall results of the studies done to date for CGEN-928, both of expression and functional studies, support its potential to serve as a drug target for mAb-based therapy for MM.

Commercialization

We are currently focusing our main commercialization efforts on entering into licensing and partnership arrangements with respect to our Pipeline Program product candidates, in which we may also participate in the further development of the partnered candidates. Potential revenue sources in such arrangements could include fees, research revenues, milestones and royalties. In some cases we expect these agreements may include an option for license, option exercise fees and license fees.

Additionally, we intend to seek research and discovery collaborations aimed at harnessing our infrastructure capabilities towards the partners' discovery needs. In these arrangements we would combine our discovery approaches to identify and prioritize novel proteins and/or targets according to the specific unmet need of our partner. Potential revenue sources in these types of transactions could include upfront fees, research funding, option exercise and license fees, milestone payments and royalties.

In view of the wide applicability of our predictive biology capabilities, we have in the past formed, or participated in the formation, of companies to utilize certain of these capabilities in other fields, and have entered into other arrangements for the further development and commercialization of various non-focus specific discoveries of interest, most of which resulted from our infrastructure development and validation activities. In all such cases, these arrangements provide the potential for future financial gain to Compugen without any further financial commitment for either development or commercialization from us. This commercialization pathway is anticipated to be of lesser importance in the future.

In 2012, we entered into two such arrangements: (i) the joint establishment of a new Israeli company, Neviah Genomics Ltd., with Merck Serono, a division of Merck, Darmstadt, Germany, in the field of toxicity biomarkers, and (ii) a financing arrangement with a United States investment company to allow the further development of Keddem Bioscience Ltd., previously a wholly owned, but inactive, subsidiary of Compugen, in the field of small molecule drugs.

In December 2011 we entered into a collaboration with BiolineRx for the purpose of developing and commercializing mutually selected Compugen discovered peptide drug candidates that are not in our areas of focus. According to this agreement, we will provide promising drug candidates, primarily peptides, which were identified by us in the past using our predictive drug discovery platforms, while BioLineRx will develop these candidates through Phase II clinical trials, with the goal of ultimately licensing them to pharmaceutical companies for advanced clinical development and commercialization. We have been advised by BiolineRx that at present they are continuing to pursue one of the three peptides initially identified by the parties to be of possible interest.

In October 2011, we entered into an agreement with the Pulmonary Fibrosis Foundation and the University of Pittsburgh, according to which the Pulmonary Fibrosis Foundation has agreed to provide a grant to scientists at the University of Pittsburgh to independently evaluate the therapeutic potential of CGEN-25009 for the treatment of idiopathic pulmonary fibrosis (IPF), a devastating disease with no current effective treatment and which is estimated to affect more than five million people worldwide.

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 out-license them to pharmaceutical and biotech companies. Our competitors include biotechnology companies, the research and discovery groups of pharma 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 product candidates or a product that acts in a different, but successful, manner addressing the same unmet need. With respect to our therapeutic product candidates, our potential competitors comprise companies that discover and develop therapeutic proteins and/or novel targets for monoclonal antibody therapy. Specifically in the immune checkpoint field for cancer immunotherapy there are several leading pharma and biotechnology companies as well as smaller biotech companies that are developing biological therapies to enhance immune response towards tumors. The product candidates being developed by the smaller companies are expected to compete with our product candidates on licensing and collaboration opportunities. If approved, such cancer immunotherapy products would compete with our approved products.

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 and proteins. 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. We believe that this advantage is made possible by building an infrastructure for predictive discovery based on the incorporation of ideas and methods from exact sciences into biology, and by the modeling of significant biological phenomena and the resultant better research capabilities that we have developed, as well as our unique team of scientists from both biology and exact sciences disciplines who work together for more than eight years on average.

Many of our potential competitors, either alone or with their collaborative partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of therapeutics, obtaining FDA and other regulatory approvals and the commercialization. Accordingly, our competitors may be more successful than we may be in identifying product candidates, developing them, obtaining FDA approval and achieving widespread market acceptance. We anticipate that we will face intense and increasing competition as advanced technologies become available.

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 underlying our predictive biology capabilities and discovery platforms, our patents and patent applications, particularly with respect to Compugen discovered molecules and utilities, and the copyrights subsisting in our software and related documentation. 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 product candidates, maintain the confidentiality of our proprietary know-how and trade secrets and otherwise protect our intellectual property.

We seek patent protection for certain promising inventions that relate to our product candidates. Subject to the following paragraph, as of January 1, 2013 we had a total of 30 issued patents, of which 27 are U.S. patents. We also have pending patent applications, which as of January 1, 2013, included 21 patent applications that have been filed in the United States, 15 patent applications that have been filed in Europe, 12 patent applications that have been filed in Israel, seven patent applications that have been filed in Australia, seven patent applications that have been filed in Canada, three patent applications that have been filed in Japan, three patent applications that have been filed in India, two patent applications that have been filed in China and six applications that have been filed under the Patent Cooperation Treaty for which we have not yet designated the countries of filing.

Our general policy is to continue patent filings and maintenance for our product candidates, only with respect to candidates or projects that are being actively pursued internally or with partners, or that we believe to have future commercial value. We routinely abandon patent applications and may choose to abandon maintenance of patents supporting candidates or projects that do not meet these criteria.

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.

Manufacturing

We currently intend to rely on contract manufacturers or our collaborative partners to produce materials and drug substances for drug products required for preclinical studies and clinical trials. We plan to continue to rely upon contract manufacturers and collaboration partners to manufacture commercial quantities of these materials for any marketed therapeutic products.

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 laws and regulations in the U.S. and Israel 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.

Regulations Concerning the Use of Animals in Research

We also are subject to various laws and regulations regarding laboratory practices and the experimental use of animals with our research. In the United States, the FDA Regulates describe good laboratory practices for various types of non-human studies that are performed to support an IND. Further, preclinical animal studies conducted by us or third parties on our behalf may be subject to the U.S. Department of Agriculture regulations for certain animal species. In Israel, the Council on Animal Experimentation has regulatory and enforcement powers, including the ability to suspend, change or withdraw approvals, among other powers. To our knowledge, the Company and the third party service providers it works with, as applicable, 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.

Regulation of Therapeutic Product Candidates

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, biologics under the Public Health Service Act, and implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state and local statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable United States requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests, animal studies and drug manufacturing in compliance with the FDA's Good Laboratory Practices or other applicable regulations;

- submission to the FDA of an investigational new drug application, or IND, which must become effective before human clinical trials may begin;

- approval by an institutional review board, or IRB, at each institution participating in a clinical trial, which must review and approve the plan for any clinical trial before it commences at that institution;

- performance of adequate and well-controlled human clinical trials in accordance with Good Clinical Practices, or GCPs, to establish the safety and efficacy of the proposed drug for its intended use;

- submission to the FDA of a new drug application, or NDA if the drug is a small molecule, or a biologics license application, or BLA, if the drug is a biologic;

- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug is produced to assess compliance with current Good Manufacturing Practice, or cGMP, to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity; and

- FDA review and approval of the NDA or BLA.

Once a pharmaceutical candidate is identified for development it enters the preclinical testing stage. Preclinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information and analytical data, and applicable clinical data or literature, among other things, to the FDA as part of the IND. The sponsor will also include a protocol detailing, among other things, the objectives of the first phase of the clinical trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated, if the first phase lends itself to an efficacy evaluation. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, places the clinical trial on a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. Clinical holds also may be imposed by the FDA at any time before or during studies due to, among other things, safety concerns or non-compliance.

All clinical trials must be conducted under the supervision of one or more qualified investigators in accordance with GCPs. An IRB at each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution. An IRB considers, among other things, whether the risks to individuals participating in the trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the information regarding the trial and the consent form that must be provided to each trial subject or his or her legal representative and must monitor the study until completed.

Each new clinical protocol must be submitted for FDA review, and to the IRBs for approval. Protocols detail, among other things, the objectives of the study, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- Phase 1: The drug is initially introduced into healthy human subjects and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. In the case of some products, usually for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- Phase 2: Involves studies in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.
- Phase 3: Involves studies undertaken to further evaluate dosage, clinical efficacy and safety in an expanded patient population at geographically dispersed clinical study sites. These studies are intended to establish the overall risk-benefit ratio of the product and provide an adequate basis for product labeling and approval.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and safety reports must be submitted to the FDA and the investigators for serious and unexpected adverse events. The FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients.

Concurrent with clinical trials, companies usually complete additional nonclinical studies and must also finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug within required specifications and, among other things, the manufacturer must develop methods for testing the identity, strength, quality and purity of the final drug. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug does not undergo unacceptable deterioration over its shelf life.

United States Review and Approval Processes

The results of product development, preclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling, and other relevant information are submitted to the FDA as part of an NDA or BLA requesting approval to market the product for one or more indications. The FDA initially reviews all NDAs or BLAs submitted to ensure that they are sufficiently complete for substantive review before it accepts them for filing. The FDA may request additional information rather than accept an NDA or BLA for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA may refer the NDA or BLA to an advisory committee for review, evaluation and recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendation of an advisory committee.

The review process is lengthy and the FDA may refuse to approve an NDA or BLA if the applicable regulatory criteria are not satisfied or may require additional clinical or other data and information. Even if such data and information are submitted, the FDA may ultimately decide that the NDA or BLA does not satisfy the criteria for approval.

If a product receives regulatory approval, the approval may be limited to specific diseases and dosages or the approved indications for use may otherwise be limited, which could restrict the commercial value of the product. In addition, the FDA may require a company to conduct post-approval testing, including Phase 4 clinical trials, to further assess a drug's safety and effectiveness after NDA or BLA approval, and may require testing and surveillance programs to monitor the safety of approved products which have been commercialized including Risk Evaluation and Mitigation Strategy (REMS) to ensure that the benefits of a drug outweigh its risks.

Post-approval Requirements

Approved drugs are subject to extensive and continuing regulation by the FDA, including, among other things, cGMP compliance, record-keeping requirements, reporting of adverse experiences with the drug, providing the FDA with updated safety and efficacy information, and complying with FDA promotion and advertising requirements. After an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements is not maintained or if problems occur after the product reaches the market. Drugs may be promoted for use only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to criminal and civil penalties.

Diagnostic Products

In the United States, IVDs are regulated by the FDA as medical devices. Medical devices are classified into one of three classes on the basis of the controls deemed by the FDA to be necessary to reasonably ensure their safety and effectiveness. Class I devices are subject to general controls, including labeling, premarket notification and adherence to FDA's quality system regulations, which are device-specific good manufacturing practices. Class II devices are subject to general controls and special controls, including performance standards and postmarket surveillance. Class III devices are subject to most of the previously identified requirements as well as to premarket approval. Class I devices are exempt from premarket submissions to the FDA; most Class II devices require the submission of a 510(k) premarket notification to the FDA; and Class III devices require submission of a premarket approval application, or PMA. Most in vitro diagnostic kits are regulated as Class I or Class II devices and are either exempt from premarket notification or require a 510(k) submission.

A 510(k) notification must demonstrate that a medical device is substantially equivalent to another legally marketed device, termed a "predicate device," that is legally marketed in the United States and for which a PMA was not required. A device is substantially equivalent to a predicate device if it has the same intended use and technological characteristics as the predicate, or has the same intended use but different technological characteristics, where the information submitted to the FDA does not raise new questions of safety and effectiveness and demonstrates that the device is at least as safe and effective as the legally marketed device. Most 510(k)s do not require clinical data for clearance, but a minority will. The FDA is supposed to issue a decision letter within 90 days of receipt of the 510(k) if it has no additional questions or send a first action letter requesting additional information within 75 days. Requests for additional data, including clinical data, will increase the time necessary to review the notice. If the FDA does not agree that the new device is substantially equivalent to the predicate device, the new medical device is automatically classified as a Class III device for which a PMA will be required. However, the sponsor may petition the FDA to make a risk-based determination that the device does not pose the type of risk associated with Class III devices and down-classify the device to Class I or Class II.

Class III devices require the submission and approval of a PMA prior to product sale. The PMA process is more complex, costly and time consuming than the 510(k) process. A PMA must be supported by more detailed and comprehensive scientific evidence, including clinical data, to demonstrate the safety and efficacy of the medical device for its intended purpose. If the device is determined to present a "significant risk," the sponsor may not begin a clinical trial until it submits an investigational device exemption, or IDE, to the FDA and obtains approval from the FDA to begin the trial. After the PMA is submitted, the FDA has 45 days to make a threshold determination that the PMA is sufficiently complete to permit a substantive review. If the PMA is complete, the FDA will file the PMA. The FDA is subject to a performance goal review time for a PMA of 180 days from the date of filing, although in practice this review time is longer. Questions from the FDA, requests for additional data and referrals to advisory committees may delay the process considerably. The total process may take several years, and the FDA may also request additional clinical data as a condition of approval or after the PMA is approved. Product changes after approval typically require a supplemental submission with FDA review cycles ranging from 30 to 180 days.

Any products manufactured or distributed pursuant to FDA clearances or approvals are subject to pervasive and continuing regulation by the FDA, including recordkeeping requirements, reporting of adverse experiences with the use of the device, and restrictions on advertising and promotion. Device manufacturers are required to register their establishments and list their devices with the FDA and are subject to periodic inspections by the FDA and certain state agencies. Noncompliance with applicable FDA requirements can result in, among other things, warning letters, fines, injunctions, civil penalties, recalls or seizures of products, total or partial suspension of production, refusal of the FDA to grant 510(k) or PMA approval for devices, withdrawal of 510(k) clearances and/or PMA approvals, or criminal prosecution.

Non-U.S. Regulations

In addition to regulations in the United States, drugs are subject to a variety of foreign laws and regulations governing clinical trials and commercial sales and distribution before they may be sold outside the United States. Whether or not we obtain FDA approval for a product, we must obtain the necessary approvals by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, the approval process, product licensing, pricing and reimbursement vary greatly from country to country.

C. ORGANIZATIONAL STRUCTURE

We were incorporated under the laws of the State of Israel on February 10, 1993 as Compugen Ltd, which is both our legal and commercial name. Compugen USA, Inc., a wholly owned subsidiary, was incorporated in Delaware in March 1997 and is qualified to do business in California.

D. PROPERTY, PLANTS AND EQUIPMENT

We currently lease an aggregate of approximately 15,380 square feet of office and biology laboratory facilities in Tel Aviv, Israel, under a lease that expires on December 31, 2015. In addition, Compugen USA, Inc. currently subleases an aggregate of approximately 4,410 square feet of office and biology laboratory facilities in South San Francisco, California, under a sublease that expires on June 30, 2014. 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

None

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, 2012, and with any other selected financial data included elsewhere in this annual report.

Background

We are a therapeutic products discovery company focused on therapeutic proteins and monoclonal antibodies to address important unmet needs in the fields of immunology and oncology, either for ourselves or our partners. Unlike traditional high throughput trial and error experimental based drug candidate discovery, our discovery efforts are based on systematic and continuously improving in silico (by computer) product candidate prediction and selection followed by experimental validation, with selected product candidates being further advanced in our Pipeline Program. Our in silico predictive models utilize a broad and continuously growing infrastructure of proprietary scientific understandings and predictive platforms, algorithms, machine learning systems and other computational biology capabilities. Our business model primarily involves collaborations covering the further development and commercialization of in house-discovered product candidates and various forms of research and discovery agreements, in both cases providing us with potential milestone payments and royalties on product sales or other forms of revenue sharing.

OPERATING RESULTS

Overview

Since our inception, we have incurred significant losses and, as of December 31, 2012, we had an accumulated deficit of $194 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 $7 million in 2010, approximately $12 million in 2011 and approximately $14 million in 2012. We may continue to incur net losses in the future due in part to the costs and expenses associated with our research, development and discovery activities. Our business model primarily involves collaborations covering the further development and commercialization of our discovered product candidates and various forms of research and discovery agreements, in both cases providing us with potential milestone payments and royalties on product sales or other forms of revenue sharing. To date, such collaborations with respect to existing product candidates have only been entered into at the early, proof of concept stage. During 2010, we initiated our Pipeline Program the aim of which is to substantially increase the number of in house discovered molecules in our validation pipeline and to advance selected molecules beyond their proof of concept stage.

Our net research and development expenses are expected to be our major operating expense in 2013, accounting for more than 60% of our expected total 2013 operating expenses. Our research and development expenses have always comprised a significant portion of our expenses.

In 2010, 2011 and 2012 these expenses continued to be, and we expect will continue to be, our largest operating expense.

We currently have sufficient working capital in order to sustain our operations for at least the next 12 months. For a detailed description of our cash and cash equivalents position, see “Liquidity and Capital Resources” in this Item 5.

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 share based payments, embedded derivatives and fair value measurements and commitments and contingencies.

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.

Share Based Payments

We account for stock-based compensation in accordance with ASC 718, “Compensation – Stock Compensation” (“ASC 718”), which 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 statement of comprehensive income.

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 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.

We apply ASC 718 and ASC 505-50, "Equity-Based Payments to Non-Employees" with respect to options and warrants issued to non-employees. ASC 718 requires the use of option valuation models to measure the fair value of the options and warrants at the measurement date.

Share-based compensation expense recognized under ASC 718 and ASC 505-50 were approximately $2.1 million, $3.4 million and $2.5 million for the years ended December 31, 2010, 2011 and 2012 respectively.

Embedded Derivatives and Fair Value Measurements

Under the Funding Agreements with Baize and in accordance with ASC 730-20, “Research and Development Arrangements” and ASC 815, “Derivative and Hedging,” we considered for the Pipeline Funding Agreement and the Pipeline Program Participation Rights as well as the conversion alternative of the instrument issued and for the mAb Funding Agreement, the mAb Participation Interest as well as the exchange Option, to be a research and development arrangement coupled with embedded derivatives as those instruments do not have fixed settlement provisions. Consequently, we determined that the embedded derivatives should be accounted for as a liability to be measured at fair value at inception. The embedded derivatives will be re-measured to fair value at each reporting period until their exercise or expiration with the change in value reported in the statement of operations (as part of financial income or expenses). In addition, under the Pipeline Funding Agreement we issued detachable warrants to the investor. (See Item 4. “Information on the Company – Recent Funding Agreements”).

We determine the fair value of the Pipeline Funding Agreement embedded derivatives using a multi period binomial model with monthly observations, while the exercise price used in the binomial model is the expected cash consideration from certain molecules which value was estimated using the income approach. Following the second amendment to the mAb Funding agreement and the need to calculate the mean average closing market price of the shares on NASDAQ within the twenty trading days prior ro the Actual Exchange Date we used Monte Carlo simulation paths of the Company's stock prices when determine the fair value of the mAb Funding Agreement embedded derivatives. The income approach for both agreements utilizes a discounted cash flow model, as we believe

that this approach best approximates the fair value of the expected income from certain molecules in the pipeline program that are underlying the Pipeline Funding Agreement and certain therapeutic mAb products that are underlying the mAb Funding Agreement. Judgments and assumptions related to revenues, future short-term and long-term growth rates, weighted average cost of capital, interest, capital expenditures, cash flows, and market conditions are inherent in developing the discounted cash flow model. The material assumptions used for the income approach for 2010, 2011 and 2012 were years of projected net cash flows, a discount rate and the market growth rate. We considered historical and current market research and conditions when determining the discount and growth rates to use in our analyses. If these estimates or their related assumptions change in the future it may affect the fair value of our results. We determine that the fair value of the embedded derivatives is to be classified under Level 3 according to the fair value hierarchy mentioned above.

We determine the fair value of the Pipeline Funding Agreement detachable warrants using Monte Carlo simulation paths of the Company's stock prices. The Monte Carlo Model was chosen following the need to calculate the mean average closing market price of the shares on NASDAQ within the ten consecutive trading days.

The above approached to valuation uses estimations, which are consistent with the plans, and estimates that we use to manage our business. There is inherent uncertainty in making these estimates.

Investment in affiliates

We account for our investments in Neviah and Keddem (both “affiliated companies”) under the equity method in accordance with ASC 323, "Investments-Equity Method". For the purpose of these financials, an affiliated company is a company held to the extent of 20% or more, or a company less than 20% held, in which we can exercise significant influence over operating and financial policy of the affiliate company.

Based on ASC 845, "Nonmonetary Transactions", ("ASC 845"), we elected the carryover basis for our investments in the affiliated companies.

Recently Issued Accounting Standards

In February 2013, the FASB issued ASU No. 2013-02, "Reporting of Amounts Reclassified out of Accumulated Other Comprehensive Income." Under ASU 2013-02, an entity is required to provide information about the amounts reclassified out of Accumulated Other Comprehensive Income ("AOCI") by component. In addition, an entity is required to present, either on the face of the financial statements or in the notes, significant amounts reclassified out of AOCI by the respective line items of net income, but only if the amount reclassified is required to be reclassified in its entirety in the same reporting period. For amounts that are not required to be reclassified in their entirety to net income, an entity is required to cross-reference to other disclosures that provide additional details about those amounts. ASU 2013-02 does not change the current requirements for reporting net income or other comprehensive income in the financial statements. ASU 2013-02 is effective for us as of January 1, 2013. Since this standard only impacts presentation and disclosure requirements, its adoption will not have a material impact on our consolidated results of operations or 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,		
	2010	2011	2012
	(US$ in thousands, except share and per share data)		
Consolidated Statements of Operations Data			
Revenues	$1,115	$-	$242
Cost of revenues	224	-	201
Research and development expenses, net	5,227	6,778	9,442
Marketing and business development expenses	633	610	684
General and administrative expenses	2,909	4,591	3,457
Total operating expenses (*)	8,769	11,979	13,583
Operating loss	(7,878)	(11,979)	(13,542)
Financial and other income (loss), net	675	(25)	(86)
Net loss	$(7,203)	$(12,004)	$(13,628)
Unrealized gain (loss) on Investment in Evogene	2,716	(1,902)	1,103
Total comprehensive loss	$(4,487)	$(13,906)	$(12,525)
Basic and diluted net loss per share	(0.22)	(0.35)	(0.38)
Weighted average number of shares used in computing basic net loss per share	33,284,017	34,276,697	35,844,496
Weighted average number of shares used in computing diluted net loss per share	33,284,017	34,276,697	36,249,262

(*) Includes stock based compensation – see Note 10 of our 2012 consolidated financial statements.

	As of December 31,		
	2010	2011	2012
	(US$ in thousands)		
Consolidated Balance Sheet Data:			
Cash and cash equivalents, short-term bank deposits and restricted cash	$22,508	$22,463	$19,685
Receivables from funding arrangement	5,000	-	-
Investment in Evogene	6,227	4,093	5,196
Trade receivables, other accounts receivable and pre-paid expenses	569	546	690
Total assets	36,458	29,081	28,909
Research and development funding arrangements	4,037	6,434	7,872
Accumulated deficit	(168,487)	(180,491)	(194,119)
Total shareholders' equity	28,285	19,581	17,672

Years Ended December 31, 2012 and 2011

Revenues. Revenues totaled approximately $242,000 in 2012. No revenues were recognized in 2011. The revenues for 2012 were due to product candidate research and collaboration agreement under which we performed research services and recognized revenues according to the proportional performance method.

Cost of Revenues. Cost of revenues attributable to product candidate research and collaboration agreements totaled approximately $201,000 for 2012 and $0 for 2011.

Research and Development Expenses, Net. Research and development expenses, net increased by 38%, to approximately $9.4 million for 2012, from approximately $6.8 million for 2011. The increase was primarily due to the establishment and initiation of activities at our U.S. based operation as well as increasing levels of activity in our Pipeline Program.

Governmental and other research and development grants received by us, which are subtracted from research and development expenses in the calculation of research and development expenses, net decreased to approximately $93,000 for 2012 from approximately $424,000 for 2011. Research and development expenses, net, as a percentage of total operating expenses, increased to 70% in 2012 from 57% in 2011.

Marketing and Business Development Expenses. Marketing and business development expenses increased by 12% to approximately $684,000 in 2012 from approximately $610,000 in 2011. This increase was primarily due to new engagements we entered into with public relations and investors relations firms to support our marketing and business development activities worldwide and especially in the U.S. Marketing and business development expenses, as a percentage of total operating expenses, were 5% for both 2012 and 2011.

General and Administrative Expenses. General and administrative expenses decreased by 24% to approximately $3.5 million for 2012 from approximately $4.6 million for 2011. The decrease was primarily due to non-cash expense related to stock based compensation which totaled approximately $979,000 for 2012 compared with approximately $2.2 million for 2011. Included in the non-cash expense of $2.2 million for 2011 was a $1.3 million one-time charge relating to an extension of the time to exercise certain previously outstanding and vested options previously issued to a director (the Company's former CEO), which extension was approved by our shareholders. General and administrative expenses, as a percentage of total operating expenses, decreased to 25% in 2012 from 38% in 2011.

Financial Income (loss), Net. Financial income (loss), net, increased to a net loss of approximately $86,000 for 2012 from a net loss of approximately $306,000 for 2011. This increase was primarily due to non-cash finance expenses mainly derived from the re-measurement of the embedded derivatives and exchange options components under the research and development funding arrangements signed in late 2010 and 2011 and the effect of changes in currency rates. This increase was partially offset by decreased interest income in deposits between the relative periods.

Other Income, net. Other income, net, decreased to none in 2012 compared to $281,000 in 2011. Other income, net in 2011 includes realized gain derived from the sale of a portion of our holdings of Evogene ordinary shares.

Years Ended December 31, 2011 and 2010

Revenues. No revenues were recognized in 2011 compared with approximately $1.1 million in 2010. The revenues for 2010 were primarily due to revenue recognition under certain product candidate research and collaboration agreements for which all of the conditions required to recognize revenues were met and accordingly recognized during 2010.

Cost of Revenues. Cost of revenues attributable to certain product candidate research and collaboration agreements were $0 for 2011 compared with approximately $224,000 for 2010.

Research and Development Expenses, Net. Research and development expenses, net increased by 30%, to approximately $6.8 million for 2011, from approximately $5.2 million for 2010. The increase was primarily due to an increase in lab activity related expenses associated with the Company’s Pipeline Program and an increase in non-cash expense related to stock based compensation. Governmental research and development grants received by us, which are subtracted from research and development expenses in the calculation of research and development expenses, net decreased to approximately $424,000 for 2011 from approximately $1 million for 2010. Research and development

expenses, net, as a percentage of total operating expenses, decreased from 60% in 2010 to 57% in 2011.

Marketing and Business Development Expenses. Marketing and business development expenses decreased by 4% to approximately $610,000 in 2011 from approximately $633,000 in 2010. This decrease was primarily due to a change in headcount which resulted in a decrease in payroll and related costs, offset by an increase in non-cash expense related to stock based compensation, from approximately $91,000 for 2010 to approximately $178,000 for 2011. Marketing and business development expenses, as a percentage of total operating expenses, decreased from 7% in 2010 to 5% in 2011.

General and Administrative Expenses. General and administrative expenses increased by 58% to approximately $4.6 million for 2011 from approximately $2.9 million for 2010. The increase was primarily due to non-cash expense related to stock based compensation which totaled approximately $2.2 million for 2011 compared with approximately $1.1million for 2010. Included in the non-cash expense of $2.2 million for 2011 was a $1.3 million one-time charge relating to an extension of the time to exercise certain previously outstanding and vested options previously issued to a director, which extension was approved by the Company's shareholders. General and administrative expenses, as a percentage of total operating expenses, increased from 33% in 2010 to 38% in 2011.

Financial Income (loss), Net. Financial income (loss), net, decreased to a net loss of approximately $306,000 for 2011 from a net income of approximately $241,000 for 2010. This decrease was primarily due to non-cash finance expenses mainly deriving from the re-measurement of the embedded derivatives and exchange options components under the research and development funding arrangements signed in late 2010 and 2011and from related issuance expenses pertaining to the funding arrangements. This decrease was partially offset by increased interest income in deposits between the relative periods.

Other Income, net. Other income, net, decreased to $281,000 in 2011 compared to $434,000 in 2010. This decrease was due to lower realized gain in 2011 compared with 2010 deriving from the sale of a portion of our holdings of Evogene ordinary shares.

Governmental Policies that Materially Affected or Could Materially Affect Our Operations

Our income tax obligations consist of those of Compugen in Israel and its subsidiary in its taxing jurisdictions.

The corporate tax rate in Israel from January 1, 2012 and onwards is 25%, compared with 24% in 2011, 25% in 2010, 26% in 2009 and 27% in 2008. In the future, if and when we generate taxable income, our effective tax rate will be primarily influenced by: (a) the portion of our income which is entitled to tax benefits due to our Approved Enterprises or Benefiting Enterprises programs; (b) the changes in the exchange rate of the U.S. dollar to the NIS. We benefit from certain government programs and tax legislation, particularly as a result of the 'Approved Enterprise' or 'Benefiting Enterprise' status under the Law for the Encouragement of Capital Investments, 1959 (an "Approved Enterprise", a "Benefiting Enterprise" and the "Investment Law", respectively). To be eligible for these benefits, we need to meet certain conditions. Should we fail to meet such conditions, these benefits could be cancelled and we might be required to refund tax benefits previously received, if any, together with interest and linkage differences to the Israeli CPI, or other monetary penalty. There can be no assurance that these programs and tax legislation will be continued in the future or that the available benefits will not be reduced.

The termination or curtailment of these programs or the loss or reduction of benefits under the Investment Law (particularly those available to us as a result of the Approved Enterprise or Benefiting Enterprise status) could have a material adverse effect on our business, financial condition and results of operations.

We have elected the alternative benefits route under the Investment Law with respect to our Approved Enterprises. Under this route we waived government grants in return for a tax exemption on undistributed income. Due to the geographic location of the Company's facilities, such tax exemption on undistributed income applies for a limited period of two years. During the remainder of the benefits period applicable to us (generally until the expiration of ten years) a corporate tax rate not exceeding 25% will apply. In the event such tax exempt income is thereafter distributed as a dividend, we will be required to pay the applicable corporate tax that would otherwise have been payable on such income. Our entitlement to such benefits is conditional upon our compliance with the terms and conditions prescribed in the Investment Law. In the event of our failure to do so, these benefits may be cancelled and we may be required to refund the amount of the benefits already received, in whole or in part, with the addition of Israeli CPI linkage differentials and interest, or other monetary penalty.

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 has not yet begun.

In April 2005, substantive amendments to the Investment Law came into effect. Under these amendments, eligible investment programs of the type in which we participated prior to the amendment were eligible to qualify for substantially similar benefits as a 'Benefiting Enterprise', subject to meeting certain criteria. This replaced the previous terminology of 'Approved Enterprise', which required pre-approval from the Investment Center of the Ministry of Industry, Trade and Labor of the State of Israel. As a result of these amendments, tax-exempt income generated from Benefiting Enterprises under the provisions of the amended law will, if distributed upon liquidation or if paid to a shareholder for the purchase of his or her shares, be deemed distributed as a dividend and will subject the Company to taxes. Therefore, a company may be required to record deferred tax liability with respect to such tax-exempt income, which would have an adverse effect on its results of operations. To date, we have not generated tax exempt income from Benefiting Enterprises.

Additional amendments to the Investment Law became effective in January 2011 (the "2011 Amendment"). Under the 2011 Amendment, income derived by 'Preferred Companies' from 'Preferred Enterprises' (both as defined in the 2011 Amendment) would be subject to a uniform rate of corporate tax as opposed to the incentives prior to the 2011 Amendment that were limited to income from Approved or Benefiting Enterprises during their benefits period. According to the 2011 Amendment, the uniform tax rate on such income, referred to as 'Preferred Income', would be 10% in areas in Israel that are designated as Development Zone A and 15% elsewhere in Israel during 2011-2012, 7% and 12.5%, respectively, in 2013-2014, and 6% and 12%, respectively, thereafter. Income derived by a Preferred Company from a 'Special Preferred Enterprise' (as defined in the Investment Law) would enjoy further reduced tax rates for a period of ten years of 5% in Zone A and 8% elsewhere. As with dividends distributed from taxable income derived from an Approved Enterprise or Benefiting Enterprise during the applicable benefits period, dividends distributed from Preferred Income would be subject to a 15% tax (or lower, if so provided under an applicable tax treaty), which would generally be withheld by the distributing company, provided however that dividends distributed from 'Preferred Income' from one Israeli corporation to another, would not be subject to tax. Under the transitional provisions of the 2011 Amendment, companies may elect to irrevocably implement the 2011 Amendment with respect to their existing Approved and Benefiting Enterprises while waiving benefits provided under the legislation prior to the 2011 Amendment or keep implementing the legislation prior to the 2011 Amendment during the next years. Should a company elect to implement the 2011 Amendment with respect to its existing Approved and Benefiting Enterprises prior to June 30, 2015 dividends distributed from taxable income derived from Approved or Benefiting Enterprises to another Israeli company would also not be subject to tax. We have not elected to implement the 2011 Amendment. While a company may incur additional tax liability in the event of distribution of dividends from tax exempt income generated from its Approved and Benefiting Enterprises, as previously described no additional tax liability will be incurred by a company in the event of distribution of dividends from Preferred Income.

The period of tax benefits with respect to our Approved Enterprise or Benefiting 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, 2012, we had not generated any taxable income. As of December 31, 2012, our net operating loss carry-forwards for Israeli tax purposes amounted to approximately $152 million. Under Israeli law, these net operating losses may be carried forward indefinitely and offset against certain future taxable income.

At December 31, 2012, 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 2032.

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; and The Office of Chief Scientist" in this Item 5 below.

Liquidity and Capital Resources

Recent Funding Agreements

Pipeline Funding Baize Agreement

On December 29, 2010, we entered into the Pipeline Funding Agreement with Baize under which Baize provided us with $5 million in support of our Pipeline Program. In exchange, Baize received (i) with respect to five (5) designated product candidates that are currently in the Pipeline Program, the right to receive ten percent (which amount may be reduced under certain circumstances) of certain cash consideration (including both development and post-marketing fees) that may be received by Compugen in the future pursuant to any licenses covering the development and commercialization of products developed from these five designated product candidates, provided that, in all cases, any such Pipeline Program Participation Rights are to be reduced by certain pass-through amounts; and (ii) warrants for 500,000 of our ordinary shares, exercisable at $6.00 per share through June 30, 2013. Currently, all five designated product candidates are either in active research in the Pipeline Program, or in third party's commercial arrangements with their current status ranging from experimental validation to post animal model proof of concept studies. In addition, Baize has the right, until June 30, 2013, to waive its right to receive Pipeline Program Participation Rights, in exchange for 833,334 of our ordinary shares.

Cantor Sales Agreement

On August 30, 2011, we entered into a sales agreement with Cantor Fitzgerald & Co. (the "Cantor Sales Agreement"), which enables us to offer and sell an aggregate of up to 6,000,000 of our ordinary shares, from time to time through Cantor Fitzgerald & Co., as our sales agent. The gross proceeds from all sales made pursuant to the Cantor Sales Agreement may not exceed $40 million in the aggregate. Sales of our ordinary shares under the Cantor Sales Agreement are 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. Cantor Fitzgerald & Co. is entitled to receive a commission rate of 3.0% of gross sales in connection with the sale of our ordinary shares on our behalf.

From January 10, 2012 through March 15, 2013 we had sold through the Cantor Sales Agreement an aggregate of 2,411,050 of our ordinary shares, and received gross proceeds of approximately $13.4 million, before deducting issuance expenses.

mAb Development Funding Baize Agreement

On December 20, 2011, we entered into the mAb Funding Agreement (the "Original mAb Funding Agreement") with Baize, pursuant to which Baize agreed to invest $8 million (the "Investment Amount") in Compugen in connection with certain research funding in exchange for the "mAb Participation Interest" in certain mAb product candidates that achieve specific milestones or have been licensed out by December 31, 2014, as further described below (the "Compugen Goldman Program"). The Investment Amount was to be paid in three installments: $2 million was paid on December 21, 2011, $3 million was to be paid on or before June 30, 2012 and $3 million was to be paid on or before September 30, 2012. According to the Original mAb Funding Agreement, in the event such payments were not made, we had the right to cancel in its entirety the mAb Participation Interest by issuing to Baize Compugen ordinary shares at a value of $6.00 per share, equivalent to the cash actually invested, to such point.

As part of the Compugen Goldman Program, the mAb product candidates were to be developed against twelve (12) specified Compugen-discovered targets ("CGP Targets") in the field of oncology.

Baize is entitled to receive the mAb Participation Interest if such mAb product candidate either achieves a successful animal disease model prior to December 31, 2014 and/or is licensed out to third parties for further development and commercialization prior to such time. In each such case, the mAb Participation Interest will consist of the right to receive from Compugen a percentage of certain future payments received by Compugen from third parties from any out-licensing for further development and/or commercialization. The percentage for each such qualifying mAb product candidate will be calculated on the date of out-licensing in accordance with a sliding scale, which takes into account the total mAb Investment amount spent for the development of therapeutic mAbs against the specified Compugen targets to such date, relative to the total amount spent by both Baize and Compugen on such mAbs, provided that Baize will be entitled to no less than ten percent of such future payments related to any qualifying mAb product candidates. Notwithstanding anything in the agreement, under the Original mAb Funding Agreement Baize had the right, during the first quarter of 2014, to waive its rights to the Participation Interest in exchange for 1,455,000 Compugen ordinary shares.

On July 24, 2012 we entered into an amendment with Baize to the Original mAb Funding Agreement, pursuant to which the number of CGP Targets was reduced from twelve (12) to eight (8), and the payment dates for the $6 million of the Investment Amount remaining to be paid on such date were amended such that $1 million was to be paid on or before July 31, 2012 and $5 million was to be paid on or before December 31, 2012. Baize paid the $1 million on July 27, 2012.

On December 27, 2012 we entered into a second amendment to the Original mAb Funding Agreement (the "Second Amendment"), pursuant to which we agreed to reduce the number CGP Targets from eight (8) to six (6) and changed the payment due date for the remaining Investment Amount to April 30, 2013. In addition the remaining Investment Amount was changed to either $5 million or $7.5 million at Baize's discretion, bringing the total Investment Amount to either $8 million or $10.5 million, as the case may be. In the event that the total Investment Amount is $10.5 million, the number of CGP Targets will revert back to eight (8).

Pursuant to the Second Amendment, we also agreed that if the final payment of $5 million or $7.5 million is not made on or prior to April 30, 2013, we will have the right to terminate the Original mAb Funding Agreement, as amended, and Baize will not be entitled to any mAb Participation Interest, other than a cumulative maximum total of $1.5 million on or after May 1, 2013 and Baize will not receive any Compugen shares.

Under the terms of the Second Amendment, Baize's right to exchange the mAb Participation Interest for our ordinary shares, has been amended as follows:

(i) the time period during which Baize has such right of exchange, which was from January 1, 2014 through March 31, 2014, has been amended to January 1, 2015 through March 31, 2015, and

(ii) in the event Baize exercises this right, the number of Compugen ordinary shares to be received by Baize has been amended from 1,455,000 shares to such number of shares determined by dividing the Net Baize Investment (as defined below), without interest, by the average closing price of the ordinary shares for the twenty (20) trading days prior to the date of such election by Baize, provided however, that if such average closing price is less than $5.5 per share, we will have the right, but not the obligation, to pay Baize in cash such amount in lieu of any Compugen shares. "Net Baize Investment" shall mean the total Investment Amount, without interest, reduced by the full amount of any mAb Participation Interest received by Baize prior to such exchange.

In 2012, our sources of cash came from:

- cash generated from the sale and issuance of ordinary shares under the Cantor Sales Agreement;
- proceeds from the research and development funding arrangement signed in December 2011 with Baize;
- exercise of stock options;
- income from product candidate research and collaboration agreement;
- governmental and other grants; and
- financial income.

We used these funds primarily to finance our business operations.

We expect that our sources of cash for 2013 will be cash held in our bank accounts, proceeds generated from license, collaborative and/or research agreements, remaining proceeds from a research and development funding arrangement signed in December 2011, as amended and proceeds received from the issuance of ordinary shares as a result of the exercise of stock options or from the sale of shares pursuant to the Cantor Sales Agreement.

Net Cash Used in Operating Activities

Net cash used in operating activities was approximately $4.3 million in 2010, approximately $9.2 million in 2011 and approximately $10.9 million in 2012. The increase in 2012 was mainly attributed to the establishment and initiation of activities at our south San Francisco operation in April 2012, as well as increasing levels of research and development activity in our Pipeline Program. The main sources of cash used to support the operating activities during 2012 were cash held in our bank accounts, proceeds from sale and issuance of ordinary shares, proceeds from research and development funding arrangements, governmental grants and cash from the exercise of stock options.

Net Cash Provided By (Used In) Investing Activities

Net cash used in investing activities primarily consisted of investment in bank deposits offset by proceeds from maturity of deposits and investment in property and equipment primarily in our south San Francisco operation. Net cash provided by investing activities primarily consisted of proceeds from maturity of short-term bank deposits. Net cash used in investing activities was approximately $13.7 million in 2010 and approximately $1.2 million in 2011, compared with net cash provided by investing activities of approximately $12.3 in 2012.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was approximately $10.1 million in 2010, approximately $9.0 million in 2011 and approximately $9.1 million in 2012. The principal sources of cash provided by financing activities in 2012 were proceeds received from sale and issuance of ordinary shares in an “at the market” under the Cantor Sales Agreement , proceeds received from the research and development funding arrangement signed in December 2011 and proceeds received from the issuance of ordinary shares as a result of the exercise of stock options.

Net Liquidity

Liquidity refers to the liquid financial assets available to fund our business operations and pay for near-term obligations. These liquid financial assets mostly consist of cash and cash equivalents as well as short-term bank deposits and marketable securities. As of December 31, 2012, we had total cash and cash equivalents and short-term bank deposits of approximately $19.6 million, not including either the market value of the 1,043,397 shares of Evogene ordinary shares owned by us, nor the $5 million due on or before April 30, 2013 under the revised payment schedule for the December 2011 research and development funding arrangement, as amended. We believe that our existing cash and cash equivalents, and short-term bank deposits will be sufficient to fund our operations for at least the next 12 months.

On January 11, 2011, we filed a shelf registration statement on Form F-3 with the SEC under which we may offer and sell from time to time in one or more offerings, our ordinary shares, rights, warrants and units having an aggregate offering price up to $40 million. This registration statement was declared effective by the SEC on January 21, 2011. On September 1, 2011 we filed a prospectus supplement in relation to the Cantor Sales Agreement.

In addition, on January 7, 2013, we filed a shelf registration statement on Form F-3 with the SEC under which we may offer and sell from time to time in one or more offerings, our ordinary shares, debt securities, rights, warrants and units having an aggregate offering price of up to $100 million. This registration statement was declared effective by the SEC on January 16, 2013.

Research and Development, Patents and Licenses

We invest heavily in research and development. Research and development expenses, net, were our major operating expenses, representing between 57% - 69% of the total operating expenses for each of 2010, 2011 and 2012. Our research and development expenses, net, were approximately $9.4 million in 2012, compared to approximately $6.8 million in 2011, and approximately $5.2 million in 2010. As of December 31, 2012, 38 of our employees were engaged in research and development on a full-time basis. This represents approximately 75% of our entire work force.

We focus our research efforts on the development of our discovery platforms and related technologies, and the discovery validation and early stage development of our therapeutic proteins and monoclonal antibody therapy product candidates. During 2010 we initiated the Pipeline Program to substantially expand the number of product candidates undergoing in-vitro and in-vivo validation and to significantly enhance the commercial value of our product candidate pipeline by advancing certain candidates beyond the successful animal disease model proof of concept stage, towards pre-IND studies. We expect that in 2013 our research and development expenses, net will continue to be our major operating expense, representing more than 70% of our total operating expenses.

We believe that our future success will depend, in large part, on our ability to discover promising therapeutic product candidates and to successfully advance the research and development of certain of our product candidates under our internal Pipeline Program towards pre-IND studies and thereafter to successfully license such product candidates to pharmaceutical companies. In addition, we expect to continue to expand our inventory of proprietary algorithms, predictive models and discovery infrastructure and platforms which provide opportunities for the discovery of promising therapeutic candidates for inclusion in our Pipeline Program and pursuant to research and discoveries collaborations.

Research and Development Grants

We have participated in programs offered by OCS that support research and development activities, and by the European Community, under the European Union's 6th Framework Program ("European Union") and under the Bi-national Industrial Research and Development Foundation ("BIRD"). We also receive or have received certain investment amounts under the mAb Funding Agreement ("Baize") to support our research and development activities. We received grants and other forms of consideration from the OCS, the European Union, BIRD and Baize of approximately $1 million in 2010, approximately $424,000 in 2011 and approximately $93,000 in 2012. We did not apply for an additional grant from the OCS for research and technological development in 2012.

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 revenues we generate from our products developed with funds received from the OCS, beginning with the sale of the first product developed with funds received from the OCS 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, 2012, our contingent obligation for royalties, based on royalty-bearing government grants, net of royalties already paid, totaled approximately $8.7 million payable out of future revenues derived from products that were developed under OCS funded projects.

The R&D 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. 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 dollar value of the grant. The specific increase within this ceiling would depend on the extent of the manufacturing to be conducted outside of Israel. Transfer of the know-how developed with funds received from the OCS and any right derived therefrom outside of Israel is prohibited, unless conducted in accordance with the restrictions set forth under Israeli law. This approval, if provided, is generally conditioned on a redemption payment which is calculated according to a formula set in the R&D Law up to an amount equal to six (6) times the total amount of grants received under the R&D Law and from the OCS in general. Therefore, our flexibility in commercializing some of our technologies may be reduced. We believe that this restriction may not apply to the commercialization through licensing of product candidates that we discover by using our knowhow developed with funds received from the OCS.

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 growing 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 on smaller companies' product candidates. However, this trend usually applies to product candidates that have reached a further stage of development than our candidates. However, in certain fields, pharmaceutical and biotechnological companies are becoming more open to in-licensing product candidates at earlier stages of development, including at early 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, 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 research and discovery 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, 2012, 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	More than 5 years
Operating Lease Obligations(1)	$ 1,604	$ 698	$ 906	$ -	$ -
Purchasing Obligations(2)	778	778	-	-	-
Accrued Severance Pay, net	253	-	-	-	253
Total	$2,635	$1,476	$906	$-	$253

(1) Consists of operating leases for our facilities and for motor vehicles.

(2) Consists of outstanding purchase orders for materials and services from our vendors.

The above table does not include royalties that we may be required to pay to the OCS or under the Funding Agreements. 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, if at all, since these amounts and times depend on our ability to generate revenues based on the OCS-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 the payments under the Pipeline Funding Agreement, mAb Funding Agreement and other contractual undertakings to pay royalties subject to certain conditions occurring.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. DIRECTORS AND SENIOR MANAGEMENT

The following table sets forth information with respect to our directors and executive officers as of February 28, 2013:

Name	Age	Positions
Prof. Yair Aharonowitz	72	Director(1)(2)(3)(4)
Prof. Ruth Arnon	79	Director(4)
Martin S. Gerstel	71	Chairman of the board of directors(4)
Dov Hershberg	73	Director(4)
Alex Kotzer	66	Director
Arie Ovadia, Ph.D	63	Director(1)(2)(3)(4)
Prof. Joshua Shemer	65	Director(1)(2)(3)(4)
Anat Cohen-Dayag, Ph.D	46	President and Chief Executive Officer
Dikla Czaczkes Axselbrad	39	Chief Financial Officer
John Hunter	50	Vice President Antibody Research and Development

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

(2) Member of our Audit Committee

(3) Member of our Compensation Committee

(4) Standing for re-election at Compugen's forthcoming annual general meeting of shareholders scheduled for April 15, 2013

Prof. Yair Aharonowitz, joined Compugen's board of directors as an external director in July 2007 and was reappointed as an external director in April 15, 2010. 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 (1997-2001), Chairman of the Department of Microbiology and Biotechnology and Chairman of the Institute of Biotechnology and served as a member of the TAU Executive Council. 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 and was a member of the National Committee for Biotechnology. He is a Fellow of the American Academy 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 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 and from the Tel Aviv University. In addition, Prof. Arnon is the incumbent of the Paul Ehrlich Chair in Immunochemistry at the Weizmann Institute.

Martin S. Gerstel joined Compugen's board of directors in 1997, and has served as the Chairman of the board of directors , other than from February 2009 to February 2010, during which time he served as either CEO or co-CEO and, in both cases, 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 Ltd., the co-founder and co-chairman of Itamar Medical Ltd., 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 joined Compugen's board of directors in February 2009, prior to which he served as a consultant to the board of directors. From February 2009 through February 2010, Mr. Hershberg served as Chairman of the board of directors. Mr. Hershberg previously managed the Israel-U.S. Binational Industrial Research and Development ("BIRD") Foundation from 1997 through 2006. Mr. Hershberg is currently a founder and executive director of Powermat Technologies Ltd., a wireless electricity company. 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. Mr. Hershberg 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.

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Alex Kotzer joined Compugen's board of directors in September 2005. From September 2005 and until December 2008 he served also as President and Chief Executive Officer of the Company. Since February, 2010, Mr. Kotzer has served as the CEO and Chairman of the Board of Regenera Pharma Ltd. Prior to joining Compugen, he served for twelve years at Serono (currently Merck Serono S.A.), a global biotechnology leader, headquartered in Switzerland. During his tenure at Serono, Mr. Kotzer held several senior positions, first as the CEO of InterPharm Laboratories, Ltd., Serono's Israeli affiliate and then after relocating to Switzerland, as Vice President of Biotechnology Manufacturing. 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 and was reappointed as an external director on April 15, 2010. He advises major Israeli companies on finance, accounting and valuations, and is a member of the board of directors of several corporations, including Strauss Ltd., Israel Petrochemical Industries Ltd., ViryaNet Ltd., Bazan Ltd., Scailex Corporation Ltd., Maxtech Technologies Ltd., Carmel Olefins Ltd. and Elron Electronic Industries Ltd. He has taught at New York University, Temple University and, in Israel, at Tel Aviv and Bradford Universities and The College of Management. 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 and was reappointed as an external director on April 15, 2010. Prof. Shemer is Full Professor of Medicine at the Tel Aviv University. In addition, Prof. Shemer is the Chairman of Assuta Medical Centers in Israel and a member of the Board of Directors of Maccabi Healthcare Services in Israel. Prof. Shemer is a director of the Israeli center for medical technology assessment in healthcare in Gertner Institute, Tel Hashomer. 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. Prof. Shemer 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. Prof. Shemer has published five books and more than 200 peer reviewed articles. Additionally, Prof. Shemer is an external director of El-Al Airlines Ltd. Prof. Shemer 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 March 2010, upon Mr. Gerstel's election as Chairman of the board of directors, Dr. Cohen-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 Ltd., Dr. Cohen-Dayag served as a scientist at the R&D department of Orgenics Ltd. Dr. Cohen-Dayag holds a B.Sc. in Biology from the Ben-Gurion University, Israel, and an M.Sc. in Chemical Immunology and a Ph.D. in Cellular Biology, both from the Weizmann Institute of Science, Israel. Additionally, Dr. Cohen-Dayag is an external director of Ramot at Tel Aviv University Ltd., and a director of the IATI (Israeli Advanced Technologies Industries).

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Dikla Czaczkes Axselbrad became Chief Financial Officer of Compugen in 2008. Prior to her current position, Ms. Czaczkes Axselbrad served as director of finance for Compugen from 2002 through 2007. Before joining Compugen, Ms. Czaczkes Axselbrad was chief financial officer of Packet Technologies Ltd., a mobile internet security hardware and software startup company 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 the Tel Aviv University, and is a certified public accountant in Israel.

John Hunter, Ph.D joined Compugen in 2012 as Site Head at our U.S. subsidiary, Compugen USA Inc, and VP Antibody Research and Development. Dr. Hunter has worked for 16 years on different aspects of oncology drug development. Following graduation from UCSF, from 1996 to 2003, Dr. Hunter worked for Millennium Pharmaceuticals Inc., where he employed genomic approaches to identify novel drug targets in lung cancer. As a founding member of Millennium's Translational Medicine group he worked to develop clinical biomarkers for their Aurora kinase small molecule inhibitors. Following Dr. Hunter's employment at Millennium, Dr. Hunter joined Xenogen Corp., where he worked as Senior Scientist in Oncology from 2004 to 2005. Dr. Hunter later joined XOMA Ltd., where from 2005 to 2012 he managed early stage antibody discovery for multiple therapeutic programs in oncology and inflammation. Dr. Hunter currently leads therapeutic antibody research and development efforts for Compugen's portfolio of novel oncology targets.

Arrangements Involving Directors and Senior Management

There are no arrangements or understandings of which we are aware pursuant to which any of our directors or executive officers have been selected for their positions with our company. In addition, there are no family relationships among any of our directors and executive officers.

B. COMPENSATION

The aggregate compensation paid or accrued by us to all persons listed above who served as directors or senior management for the year 2012 (10 persons) was approximately $1 million. This amount includes approximately $78,000 set aside or accrued to provide pension, severance, retirement or similar benefits.

During 2012, we granted a total of 417,500 options to purchase ordinary shares to the above listed directors and senior management, as a group. These options are exercisable at a range between $3.23 and $5.99 per share, and generally expire ten years after their respective dates of grant. As of December 31, 2012, there were a total of 2,912,348 outstanding options to purchase ordinary shares that were held by 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. For additional information on the compensation paid to our non-management directors please see Compensation to our Office Holders under "Item 6 – Directors, Senior Management and Employees." The aggregate amount paid to all of our non-management directors for the year ended December 31, 2012 was approximately $102,000.

Approval Required for Directors' and Officers' Compensation

Prior to a recent amendment to the Companies Law, which became effective on December 12, 2012 (the "2012 Amendment"), arrangements with respect to office holder's terms of office and employment required the approval of the audit committee and the board of directors and, with respect to the terms of office and employment of directors, also the approval of the shareholders by a simple majority. Following the 2012 Amendment, public companies are required to appoint a compensation committee that meets certain independence criteria as described below, and that

replaces the audit committee with respect to the approval of these matters.

Pursuant to the 2012 Amendment, any arrangement between a public company and an office holder of the company as to such office holder's terms of office and employment, including the grant of exculpation, an undertaking to indemnify the office holder, post factum indemnification or insurance, any grant, payment, remuneration, compensation, or other benefit provided in connection with such office holder's termination of service, and any benefit, other payment or undertaking to provide any such payment (“Terms of Office and Employment”), now generally requires the approval of the company's compensation committee and the board of directors and, with respect to directors and the chief executive officer, also the company's shareholders.

The term "office holder" as defined in the Companies Law includes a general manager, chief executive officer, executive vice president, vice president, any other person fulfilling or assuming any of the foregoing positions without regard to such person’s title, as well as a director or a manager directly subordinate to the general manager or chief executive officer.

In addition, pursuant to the 2012 Amendment, such office holder's Terms of Office and Employment are to meet the provisions of a compensation policy for office holders, which the Company is required to adopt by September 11, 2013 (the "Compensation Policy"). The Compensation Policy must be based on those considerations, must include those provisions and needs to reference those matters as are detailed in the Companies Law. The Compensation Policy must be approved by the board of directors, after considering the recommendations of the compensation committee. In addition, the Compensation Policy needs to be approved by the company's shareholders by a simple majority, provided that (i) such majority includes at least a majority of the shareholders who are not controlling shareholders and who do not have a personal interest in the matter, present and voting (abstentions are disregarded), or (ii) the non-controlling shareholders or shareholders who do not have a personal interest in the matter who were present and voted against the election, hold two percent or less of the voting power of the company (the "Compensation Majority").

The board of directors and the compensation committee may override the resolution of the shareholders following a re-discussion of the matter and for specified reasons.

A Compensation Policy that is for a period of more than three years generally needs to be brought for approval in accordance with the above procedure every three years.

Notwithstanding the above, the amendment of existing Terms of Office and Employment of office holders (other than directors) merely requires the approval of the compensation committee, if the committee determines that the amendment is not material in relation to the existing terms.

During the transition period, until a Compensation Policy is adopted, the Terms of Office and Employment of an office holder, including any amendment thereof, are required to be approved as described below with respect to the different categories of office holders and must be based on, must include and need to reference the same matters as those required with respect to the Compensation Policy described above.

Directors

Pursuant to the 2012 Amendment, any arrangement between a company and a director as to his/her Terms of Office and Employment should be in line with the Compensation Policy and requires the approval of the compensation committee, the board of directors and the general meeting by a simple majority.

Under certain circumstances and conditions, the compensation committee and the board of directors may approve an arrangement that deviates from the Compensation Policy, provided that such arrangement is approved by the company's shareholders by the Compensation Majority. Such approval will also be required in the transition period until the company adopts a Compensation Policy.

Under the Companies Law and regulations promulgated pursuant thereto, the compensation payable to external directors and independent directors is subject to certain further limitations.

Chief Executive Officer

Pursuant to the 2012 Amendment, any arrangement between a company and its chief executive officer who is not a director as to his other Terms of Office and Employment must be in line with the Compensation Policy and requires the approval of the compensation committee, the board of directors and the company's shareholders by the Compensation Majority.

Under certain circumstances and conditions, the compensation committee and the board of directors may approve an arrangement that deviates from the Compensation Policy provided it is approved by the shareholders by the Compensation Majority. Such approval will also be required during the transition period until the company adopts a Compensation Policy. In addition, under certain circumstances, a company may be exempt from receiving the shareholders' approval with respect to the Terms of Office and Employment of a new candidate for chief executive officer.

In special circumstances the board of directors and the compensation committee may override the resolution of the shareholders following a re-discussion of the matter and for specified reasons.

Other Office Holders

Pursuant to the 2012 Amendment, any arrangement between a company and an office holder (other than a director or the chief executive officer) as to his or her Terms of Office and Employment must be in line with the Compensation Policy and requires the approval of the compensation committee and the board of directors.

Under certain circumstances and conditions, the compensation committee and the board of directors may approve an arrangement that deviates from the Compensation Policy, provided that such arrangement is approved by the company's shareholders by the Compensation Majority. In special circumstances the board of directors and the compensation committee may override the resolution of the shareholders following a re-discussion of the matter and for specified reasons. During the transition period until the company adopts a Compensation Policy, the compensation committee and the board of directors may approve the Terms of Office and Employment of such office holder.

Compensation to our Office Holders

Our shareholders previously approved that all non-management members of our board of directors (including external directors) are entitled to receive fees in connection with their participation in board of directors meetings as well as meetings of committees of the board of directors and are also eligible to receive options to purchase our ordinary shares on an annual basis. The Company’s shareholders previously approved the following compensation for each of our non-management directors:

- an annual amount of $10,000, and an additional annual amount of $5,000 to be paid to non-management board members who serve on one or more of the board committees;

- a payment of $1,000 per participation in each board meeting, provided that if such participation is both by telephone and less than 4 hours in total, then such “per meeting day” fee shall be $500;

- an initial grant of options to purchase 40,000 of our ordinary shares was granted on July 31, 2007 to our non-management directors that were in office at that time. Such options are fully vested;

- an additional grant of options to purchase 10,000 of our ordinary shares per year on each annual anniversary of the initial grant, to each non-management director then serving on the board of directors , at an exercise price equal to the closing price on the date of such grant, as reported by The NASDAQ Capital Market. Such additional options vest as follows: 3,333 of the options vest on each of the first two anniversary dates of such grant and 3,334 on the third anniversary date. Notwithstanding the terms of the relevant plan, 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 Compugen or otherwise: (a) a sale of all or substantially all of our 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 our equity or voting power by any shareholder or group of shareholders. Notwithstanding the terms of the relevant plan, all options granted which shall be vested as of the date of termination of services by a non-management director, may be exercised within one year after the cessation of his or her term as a director of Compugen;

- VAT is added to the above compensation in accordance with applicable law.

On February 28, 2010, Mr. Dov Hershberg provided our board of directors with a letter under which he voluntarily and irrevocably (i) waived all Compugen stock options held by him solely to the extent that such options would vest after December 31, 2010; and (ii) waived any and all additional cash or additional stock options that would otherwise be due to him as a director of the Company for service prior to January 1, 2011.

Mr. Martin Gerstel, our active chairman of the board of directors, is not entitled to receive the above compensation. Effective as of March 1, 2010, and following the approval of our Audit Committee, Board and shareholders, we entered into an employment agreement with Mr. Gerstel, according to which he is entitled to employment terms as required by Israeli law. The employment agreement may be terminated by either party by providing 90 days prior written notice. As part of his employment agreement, our shareholders have approved the following compensation to Mr. Gerstel:

- a gross monthly salary of NIS 42,000 (approximately $11,410 pursuant to the exchange rate of $1.00= NIS 3.681 as of March 15, 2013); and

- a grant of options to purchase 125,000 of our ordinary shares at an exercise price of $5.00 per share. Such options are subject to the terms and conditions of the Company's 2010 Share Incentive Plan except that the options vest as follows: beginning on January 31, 2013 and ending on December 31, 2013, 1/12 of the options vest on the last day of each month during 2013. These options shall expire on July 26, 2020, unless they expire earlier in accordance with the terms of the Company's 2010 Share Incentive Plan.

In addition to the above on July 3, 2012 our shareholders approved for Mr. Gerstel a one-time grant of options to purchase 62,500 of our ordinary shares at an exercise price of $4.01 per share. Such options are subject to the terms and conditions of the Company's 2010 Share Incentive Plan except that the options shall vest as follows: beginning on January 31, 2014 and ending on December 31, 2014, 1/12 of the options shall vest on the last day of each month during 2014. These options shall expire on July 26, 2021, unless they expire earlier in accordance with the terms of the Company's 2010 Share Incentive Plan.

Indemnification, Insurance and exemption

The Company's Articles of Association (the "Articles") permit the Company, subject to the provisions of the Companies Law and the Articles, to exculpate, indemnify (in advance and retrospectively) and insure its directors and officer holders to the fullest extent permitted therein. The Company's directors and officers are currently covered by a directors' and officers' liability policy. The Company's shareholders previously resolved to provide the Company's directors and certain other office holders with indemnification from any liability for damages caused as a result of a breach of duty of care to the fullest extent permitted by law, and to provide such directors and other office holders with an exemption, all in accordance with and pursuant to the terms set forth in the Company's standard indemnification undertaking.

C. BOARD PRACTICES

We are incorporated in Israel, and, therefore, are subject to various corporate governance practices under Israeli law relating to such matters as external directors, independent directors, the audit committee, the compensation committee and the internal auditor. These matters are in addition to the requirements of the NASDAQ Capital Market and other relevant provisions of U.S. securities laws. Under the NASDAQ Listing Rules of the NASDAQ Stock Market, which we refer to as the NASDAQ Listing Rules, a foreign private issuer may generally follow its home country practices for corporate governance in lieu of the comparable NASDAQ Capital Market requirements, except for certain matters such as composition and responsibilities of the audit committee and the SEC-mandated standards for the independence of its members. For U.S. domestic companies, the NASDAQ Listing Rules specify that the majority of the members of the board of directors must be independent. We currently comply with this requirement. In addition, under the Companies Law, we are required to appoint at least two external directors, with which we comply, as described below under "External Directors".

Board of Directors

Our board of directors consisted of seven members as of February 28, 2013, three of whom were elected as external directors under the provisions of the Companies Law (discussed below). Other than our three external directors, who are elected for a fixed term of three years, our directors are elected by our shareholders by a simple majority for a term of approximately one year, ending at the annual general meeting immediately following the annual general meeting at which they were elected or upon the election or appointment of a new director in his or her place. Our Articles of Association, which we refer to as our "Articles", provide that we may have no less than five, nor more than fourteen directors.

None of our directors is party to a service contract with us that provides for any severance or similar benefits upon termination of his or her service. We have entered into an employment agreement with our active chairman of the board of directors Mr. Martin Gerstel, according to which he is entitled to employment terms required by Israeli law, including severance payments (for additional information on the employment agreement entered into with Mr. Martin Gerstel, please see Compensation to our Office Holders under "Item 6 – Directors, Senior Management and Employees."

External Directors

Qualifications of External Directors

The Companies Law requires Israeli companies with shares that have been offered to the public either in or outside of the State of Israel to appoint at least two external directors. The Companies Law provides that no person may be appointed as an external director of a company if such person is a relative of a controlling shareholder or if such person, a relative, partner or employer, of that person or anyone to whom such person is directly or indirectly subordinate, 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, any affiliation with the company to whose board the external director is proposed to be appointed, with any controlling shareholder of such company, a relative of such controlling shareholder, or any entity controlled, on the date of that person's appointment or within the two years preceding the date of the appointment, by the company or by a controlling shareholder of the company, or, if the company has no controlling shareholder or shareholder holding 25% or more of the company's voting rights, any affiliation, at the time of the appointment, with the chairman of the board of directors, the chief executive officer, the most senior financial officer of the company, or with a shareholder holding 5% or more of the outstanding shares or voting rights of 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 as such term is defined under the Companies Law (which term includes a director).

In addition, no person may serve as an external director if: (a) the person's position or other activities create, or may create, a conflict of interest with the person's responsibilities as a director or interfere with the person's ability to serve as a director; (b) at the time such person serves as a non-external director of another company on whose board of directors a director of the reciprocal company serves as an external director; (c) the person is an employee of the Israel Securities Authority or of an Israeli stock exchange; (d) such person or such person's relative, partner, employer or anyone to whom such person is directly or indirectly subordinate, or any entity under such person's control, has business or professional relations with any person or entity he or she should not be affiliated with, as described in the previous paragraph, unless such relations are negligible; or (e) such person received compensation directly or indirectly, in connection with such person's services as a director, other than as permitted under the Companies Law and the regulations promulgated thereunder. If, at the time of election of an external director, all other directors who are not controlling shareholders of the company or their relatives, are of the same gender, the external director to be elected must be of the other gender.

The Companies Law requires that an external director have either accounting and financial expertise or professional qualifications according to criteria set forth in regulations promulgated by the Israeli Minister of justice, provided that at least one of the external directors has accounting and financial expertise. The board of directors must make the determinations as to the financial and accounting expertise, and as to the professional qualifications, of a director taking into consideration those criteria and matters set forth in the regulations. In addition, the boards of directors of publicly traded companies are required to make a determination as to the minimum number of directors who must have financial and accounting expertise as aforesaid based, among other things, on the type of company, its size, the volume and complexity of the company's activities and the number of directors. Our board of directors has determined that the minimum number of directors with financial and accounting expertise is one and that Dr. Arie Ovadia, one of the Company's external directors, qualifies as such.

Election of External Directors

External directors are elected at the general meeting of shareholders by a simple majority, provided that the majority includes at least a majority of the shareholders who are not controlling shareholders and who do not have a personal interest in the matter (other than a personal interest which is not the result of an affiliation with a controlling shareholder) who are present and voting at the meeting (abstentions are disregarded in this calculation) or that the non-controlling shareholders or shareholders who do not have a personal interest in the matter (other than a personal interest which is not the result of an affiliation with a controlling shareholder), who are present and voted against the election did not exceed two percent of the total voting power of the company.

External directors are elected for a term of three years and may be re-elected for two additional terms of three years each, provided that with respect to the appointment for each such additional three year term one of the following has occurred: (a) the reappointment of the external director has been proposed by one or more shareholders holding together one percent or more of the aggregate voting rights in the company and the appointment was approved by a majority at the general meeting, provided that: (i) in calculating the majority, votes of controlling shareholders or

shareholders having a personal interest in the appointment (other than a personal interest which is not the result of an affiliation with a controlling shareholder) and abstentions are disregarded, and (ii) the total number of shares of shareholders who do not have a personal interest in the appointment (other than a personal interest which is not the result of an affiliation with a controlling shareholder) and/or who are not controlling shareholders, present and voting in favor of the appointment exceed two percent of the total voting rights in the company; or (b) the reappointment of the external director has been proposed by the board of directors and the appointment was approved by the majority required for the initial appointment of an external director.

However, under regulations promulgated pursuant to the Companies Law, companies whose shares are also registered for trading on specified exchanges outside of Israel, including the NASDAQ Global Market on which the Company's ordinary shares are listed, may elect external directors for additional terms that do not exceed three years each, beyond the three three-year terms generally applicable, provided that, if an external director is being re-elected for an additional term or terms beyond the three three-year terms (i) the audit committee and the board of directors must determine that, in light of such external director's expertise and special contribution to the board of directors and its committees, the re-election for an additional term is for the company's benefit; (ii) the external director must be re-elected by the required majority of shareholders and subject to the terms specified in the Companies Law; and (iii) the term during which the nominee has served as an external director and the reasons given by the audit committee and the board of directors for extending his or her term of office must be presented to the shareholders prior to their approval.

An external director may receive compensation solely as provided in regulations promulgated pursuant to the Companies Law governing the terms of compensation payable to external directors.

Each committee of a company's board of directors that has the right to exercise powers of the board of directors must include at least one external director and its audit committee and compensation committee must include all of the external directors.

An external director can not be dismissed from office unless: (i) the board of directors determines that the external director no longer meets the statutory requirements for holding the office, or that the external director is in breach of his or her fiduciary duty of loyalty to the company, and the shareholders vote, by the same majority of shareholders as is required for his or her appointment, to remove the external director after the board of directors' reasoning have been brought before the shareholders and the external director has been given the opportunity to present his or her position; (ii) a court determines, upon a request of a director or a shareholder, that the external director ceases to meet the statutory requirements for his or her appointment or that the external director is in breach of his or her fiduciary duty of loyalty to the company; or (iii) a court determines, upon a request of the company or a director, shareholder or creditor of the company, that the external director is unable to fulfill his or her duty, or has been convicted of specified crimes. If an external director no longer meets the statutory requirements for holding the office he or she must notify the company to that effect immediately, and his or her service will expire immediately upon submission of such notice. If an external directorship becomes vacant and the number of external directors serving in the company is less than two, then a company's board of directors is required under the Companies Law to call a shareholders' meeting as soon as possible to appoint a new external director.

Following termination of service of an external director, a public company, a controlling shareholder thereof and any entity controlled by a controlling shareholder, may not grant any benefit, directly or indirectly, to such external director, or to his or her relative, including, not appointing such external director, or his or her relative, as an office holder of such company or of an entity controlled by a controlling shareholder of such public company, not employing such external director or his or her relative and not receiving professional services for pay from such external director or his or her relative, either directly or indirectly, including through a corporation controlled by such external director, or his or her relative, all until the lapse of two years from termination of office with respect to the external director, his or her spouse or child and until the lapse of one year from termination of office with respect to other relatives of the former external director.

Professor Yair Aharonowitz, Dr. Arie Ovadia and Professor Joshua Shemer currently serve as our external directors, each of whom is also independent under the NASDAQ Listing Rules. The initial election of each of Professor Yair Aharonowitz, Dr. Arie Ovadia and Professor Joshua Shemer for a term of three years was approved by our shareholders at our annual general meeting of shareholders held on July 31, 2007. They were each re-elected by our shareholders on April 15, 2010 for an additional three year term that expires on April 14, 2013.

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Independent Directors under the Companies Law

The Companies Law also defines 'independent directors'. An independent director is either an external director or a director appointed or classified as such who meets the same non-affiliation criteria as an external director, as determined by the subject company's audit committee, and who has not served as a director of the company for more than nine consecutive years. For these purposes, ceasing to serve as a director for a period of two years or less would not be deemed to sever the consecutive nature of such director's service. An independent director may be removed from office in the same manner that an external director may be removed.

Pursuant to the Companies Law, a public company, such as us, may include in its articles of association a provision providing that a specified number of its directors be independent directors or may adopt a standard provision providing that a majority of its directors be independent directors or, if there is a controlling shareholder or a 25% or more shareholder, that at least one-third of its directors be independent directors.

The company has not included in its Articles a provision providing that a specified number of its directors must be independent directors.

Pursuant to the Companies Law, independent directors shall receive the same compensation as an external director. In addition and similarly to an external director, following termination of service as an independent director, a company, a controlling shareholder thereof and any entity controlled by a controlling shareholder, may not grant any benefit, directly or indirectly, to such director, or to his or her relative, including, not appointing such independent director, or his or her relative, as an office holder of such company or of an entity controlled by a controlling shareholder of such company, not employing such independent director or his or her relative and not receiving professional services for pay from such independent director or his or her relative, either directly or indirectly, including through a corporation controlled by such independent director, or his or her relative, all until the lapse of two years from termination of office with respect to the director, his or her spouse or child and until the lapse of one year from termination of office with respect to other relatives of the former director.

Regulations promulgated pursuant to the Companies Law provide that a director in a company whose shares are listed for trading on specified exchanges outside of Israel, including the NASDAQ Global Market on which the Company's ordinary shares are listed, who qualifies as an independent director under the relevant non-Israeli rules relating to independence standards for audit committee membership and who meets certain non-affiliation criteria, which are less stringent than those applicable to external directors, would be deemed an independent director pursuant to the Companies Law provided (i) he or she has not served as a director for more than nine consecutive years, (ii) he or she has been approved as such by the audit committee, and (iii) his or her remuneration shall be the same as that applicable to external directors. For these purposes, ceasing to serve as a director for a period of two years or less would not be deemed to sever the consecutive nature of such director's service. Furthermore, pursuant to these regulations, such company may re-appoint a person as an independent director for additional terms, beyond nine years, which do not exceed three years each, if the audit committee and the board of directors determine that in light of the independent director's expertise and special contribution to the board of directors and its committees, the re-appointment for an additional term is to the company's benefit.

The Company has not included in its Articles a provision providing that a specified number of its directors must be independent directors.

Independent Directors under the NASDAQ Listing Rules

In addition to the requirements of the Companies Law as described above, since our shares are listed on the NASDAQ Capital Market, pursuant to the NASDAQ Listing Rules a majority of our directors must be independent (as defined

under the NASDAQ Listing Rules). We comply with such NASDAQ independence requirement, as four of the seven members of our board of directors - Professor Yair Aharonowitz, Dr. Arie Ovadia, Professor Joshua Shemer and Professor Ruth Arnon- have been determined by our board of directors to meet the NASDAQ independence requirements.

Directors under the Companies Law - General

A nominee for service as a director in a public company may not be elected without submitting a declaration to the company, prior to election, specifying that he or she has the requisite qualifications to serve as a director, an external director or an independent director, as applicable, and the ability to devote the appropriate time to performing his or her duties as such.

A director, including an external director and an independent director, who ceases to meet the statutory requirements to serve as a director, external director or independent director, as applicable, must notify the company to that effect immediately and his or her service as such will expire upon submission of such notice.

Board Committees

Audit Committee

Under the listing requirements of The NASDAQ Capital Market, a foreign private issuer is required to maintain an audit committee that operates under a formal written charter and has certain responsibilities and authority, including being directly responsible for the appointment, compensation, retention and oversight of the work of the issuer's independent auditors. The audit committee is required to consist of at least three members, all of whom must be financially literate and also meet the independence requirements established by the SEC under Rule 10A-3 of the Exchange Act and the independence criteria set forth in the NASDAQ Listing Rules. The NASDAQ Listing Rules also require that at least one member of the audit committee be financially sophisticated (as defined in such listing rules).

The Companies Law also requires public companies such as ours to appoint an audit committee comprised of at least three directors, including all of the external directors, and the majority of the members of the audit committee must be independent directors (as described above under -- "Independent Directors under the Companies Law").

The Companies Law further stipulates that the following may not be members of the audit committee: (a) the chairman of the board of directors; (b) any director employed by or providing services on an ongoing basis to the company, to a controlling shareholder of the company or an entity controlled by a controlling shareholder of the company; (c) a director whose livelihood depends on a controlling shareholder; or (d) a controlling shareholder or any relative of a controlling shareholder.

The Companies Law further requires that: (i) the chairman of the audit committee be an external director; (ii) generally, any person who is not entitled to be a member of the audit committee may not attend the audit committees meetings; and (iii) the quorum required for the convening of meetings of the audit committee and for adopting resolutions by the audit committee be a majority of the members of the audit committee provided that the majority of the members present are independent directors and at least one of them is an external director.

Under the Companies Law, our audit committee is responsible for (i) identifying flaws in the management of a company's business and making recommendations to the board of directors as to how to correct them, (ii) with respect to certain actions involving conflicts of interest and with respect to certain related party transactions, deciding whether such actions are material actions and whether such transactions are extraordinary transactions, respectively, all for the purpose of approving such actions or transactions; (iii) reviewing and deciding whether to approve certain related party transactions (as defined under "Item 10. Additional Information— Memorandum and Articles of Association— Fiduciary Duties of Office Holders" below) or certain actions involving conflict of interest, (iv) reviewing the internal auditor's work program, (v) examining the company's internal control structure and processes, the performance of the internal auditor and whether the internal auditor has at his or her disposal the tools and resources required to perform his or her duties, considering, inter alia, the special needs of the company and its size, (vi) examining the external auditor's scope of work as well as the external auditor's fees and providing the corporate organ responsible for determining the external auditor's fees with its recommendations, and (vii) providing for arrangements as to the manner in which the company will deal with employee complaints with respect to deficiencies in the administration of the company's business and the protection to be provided to such employees.

Our audit committee also oversees our accounting and financial reporting processes as well as pre-approve our financial statements. It also provides assistance to our board in fulfilling its legal and fiduciary obligations with respect to matters involving the accounting, auditing, financial reporting and internal control functions of the Company. The audit committee also monitors generally the services provided by the Company's external auditors to ensure their independence, and reviews all audit and non-audit services provided by them. The Company's external and internal auditors also report regularly to the audit committee at its meetings, and the audit committee discusses with the Company's external auditors the quality, not just the acceptability, of the accounting principles, the reasonableness of significant judgments and the clarity of disclosures in the Company's financial statements, as and when it deems it appropriate to do so.

Under the NASDAQ Listing Rules the audit committee is responsible for the appointment, compensation, retention and oversight of the work of the company's independent auditors, among other things. However, under Israeli law, the appointment of independent auditors and their compensation require the approval of the shareholders of the company, or, with respect to their compensation, the approval of the board of directors if so determined in the company's articles of association or by the shareholders. Our Articles have authorized our board of directors to determine the compensation of our independent auditors. In addition, pursuant to the Companies Law, the audit committee is required to examine the independent auditors' fees and to provide its recommendations with respect thereto to the appropriate corporate organ. Accordingly, the appointment of the independent auditors will be required to be approved and recommended to the shareholders by the audit committee and approved by the shareholders. The compensation of the independent auditors will be required to be approved by the audit committee and recommended to the board of director and approved by the board of directors.

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 Listing Rules and as external directors under the Companies Law. We have adopted a charter for the audit committee, which sets forth the purpose and responsibilities of such committee under the above-described legal requirements.

Compensation Committee

Under the 2012 Amendment, the Companies Law requires public companies to appoint a compensation committee comprised of at least three directors, including all of the external directors, who must generally also constitute a majority of the members. All other members of the compensation committee, who are not external directors, must be directors who receive compensation that is in compliance with the regulations promulgated pursuant to the Companies Law governing the terms of compensation payable to external directors. In addition, the chairperson of the compensation committee must be an external director.

The Companies Law further stipulates that the following may not be members of the compensation committee: (a) the chairman of the board of directors; (b) any director employed by or providing services on an ongoing basis to the company, to a controlling shareholder of the company or an entity controlled by a controlling shareholder of the company; (c) a director whose livelihood depends on a controlling shareholder; and (d) a controlling shareholder or any relative of a controlling shareholder.

The Companies Law further provides that similar to the audit committee, generally, any person who is not entitled to be a member of the compensation committee may not attend the compensation committee's meetings.

The responsibilities of the compensation committee under the Companies Law include: (i) making recommendations to the board of directors with respect to the approval of the Compensation Policy and any extensions thereto, (ii) periodically reviewing the implementation of the Compensation Policy and providing the board of directors with recommendations with respect to any amendments or updates thereto, (iii) reviewing and resolving whether or not to approve arrangements as to the terms of service and/or employment of office holders or a controlling shareholder or such controlling shareholder's relative, and (iv) resolving whether or not to exempt a transaction with a candidate for chief executive officer from shareholder approval.

We have recently established a compensation committee consisting of our three external directors. The members of the compensation committee are Dr. Arie Ovadia, who serves as the chairman of our compensation committee, Professor Yair Aharonowitz, and Professor Joshua Shemer.

Other Committees

Our board of directors does not maintain a nominating committee. The functions of such committee is performed by the full board of directors. This practice is compliant with Israeli law and, as a foreign private issuer under the SEC's rules, we have elected, pursuant to NASDAQ Listing Rule 5615(a)(3), to follow Israeli practice, in lieu of compliance with the NASDAQ Listing Rules 5602(d) or 5602(e).

Director and Officer Compensation

Until the appointment of our compensation committee recently, our audit committee served as the body with authority for establishing appropriate compensation levels for our executives officers (subject to follow-up approval by the board of directors as a whole). In setting compensation levels, our audit committee and board of directors were guided by the levels of compensation provided to executives in other companies in our industry and our home country, as adjusted to account for differences in size and other relevant distinguishing factors.

Pursuant to the 2012 Amendment the Company's compensation levels for executives officers will need to be reevaluated and gathered into a Compensation Policy.

For additional information on the approval procedure of compensation to office holders, please see Approval Required for Directors' and Officers' Compensation under “Item 6. Directors, Senior Management and Employees.”

Internal Auditor

Under the Companies Law, the board of directors must appoint an internal auditor, recommended 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, an interested party or an office holder, or a relative of an interested party or of an office holder, as well as the company's independent auditors or any one on such person's behalf may not serve as a company's internal auditor. The internal auditor’s tenure cannot be terminated without his or her consent, nor can he or she be suspended from such position unless the board of directors has so resolved after hearing the opinion of the audit committee and after providing the internal auditor with the opportunity to present his or her position to the board of directors and to the audit committee. “Interested party” is defined in the Companies Law as a holder of 5% or more of the company's outstanding shares or voting rights, any person or entity who has the right to designate one director or more or the chief executive officer of the company or any person who serves as a director or as a chief executive officer of the company.

On February 8, 2010, our board of directors appointed Hila Barr of Brightman Almagor Zohar & Co., a member company of Deloitte Touche Tohmatsu, as its internal auditor. Hila Barr is not an employee, affiliate or office holder of the Company, or affiliated with the Company's independent auditors.

D. EMPLOYEES

The following table sets out the number of our employees engaged in specified activities, at the end of the fiscal years 2012, 2011 and 2010 (the numbers include employees of our wholly owned U.S. subsidiary Compugen USA Inc. :

	December 31, 2012	December 31, 2011	December 31, 2010
Research & Development	*38	28	27
Administration, Accounting and Operations	*12	10	11
Marketing and Business Development	2	1	1
Total	52	39	39

* includes one employee on a part-time basis

For the years ended December 31, 2010 and 2011 all of our employees were based in Israel. In April 2012 we established a new monoclonal antibody (mAb) research and development operation in South San Francisco, California. For the year ended December 31, 2012, 42 of our employees were located in Israel and 9 were located in the U.S.

The Israeli labor laws govern the employment of our employees. These statutes cover a wide range of subjects and provide certain minimum employment standards including the length of the workday, minimum wage, hiring and dismissal procedures, determination of severance pay, annual leave, sick days and other terms of employment. In addition we have entered into an employment agreement with our active chairman of the board, Mr. Martin Gerstel, according to which he is entitled to employment terms required by Israeli law. The employment agreement may be terminated by either party by the providing 90 days, prior written notice (for additional information on the

employment agreement entered into with Mr. Martin Gerstel, please see Compensation to our Office Holders under "Item 6 – Directors, Senior Management and Employees").

We contribute monthly amounts for the benefit and on behalf of all our employees located in Israel to a managers insurance plan and/or a pension plan on account of remuneration and severance pay. Our severance pay liability to our employees is based upon the number of years of their employment and their latest monthly salary and is partly covered by the amounts contributed to the managers insurance plan and the pension plan.

Our employees are not represented by a labor union. We have written employment contracts with each of our employees. We have never experienced labor-related work stoppages and we believe that our relations with our employees are good.

E. 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 of the Company and/or options to purchase ordinary shares of the Company. Except as set forth in the table below, none of the directors or executive officers beneficially owns ordinary shares and/or ordinary shares underlying options amounting to 1% or more of the outstanding ordinary shares. The following table sets forth certain information as of February 28, 2013, 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 February 28, 2013. The information in this table is based on 37,265,679 ordinary shares outstanding as of February 28, 2013.

Beneficial Owner	Amount Owned	Percent of Class	
Martin S. Gerstel (1)	2,385,015	6.31	%
Anat Cohen-Dayag (2)	654,768	1.73	%
All directors and senior management as a group (10 persons) (3)	3,936,533	10.01	%

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(1) Includes (i) 500,000 shares held by Shomar Corporation, an affiliate of Mr. Gerstel, (ii) 619,033 shares held by Merrill Lynch IRA for Martin S. Gerstel, of which Martin S. Gerstel is the beneficiary, and (iii) 734,735 shares held in a trust for which Martin S. Gerstel and his immediate family are the beneficiaries. Also includes 531,247 shares subject to options that are currently exercisable or that become exercisable within 60 days after February 28, 2013 with a weighted average exercise price of $0.76 per share and which expire between January 2019 and February 2020.

(2) Consists of 654,768 shares subject tooptions that are exercisable within 60 days after February 28, 2013 with a weighted average exercise price of $2.58 per share, and which expire between April 2013 and February 2020.

(3) Includes (i) a total of 3,039,783 shares and shares subject options that are beneficially owned by Martin S. Gerstel and Anat Cohen-Dayag as noted in Notes 1 and 2, (ii) 891,750 shares subject to options that are beneficially owned by other officers and directors, with a weighted average exercise price of $2.58 per share and which expire between July 2013 and January 2022 and (iii) 5,000 ordinary shares held by directors.

Share Option Plans

We maintain one active share option plan, plus one additional share option plan under which prior grants remain outstanding, for our employees, directors and consultants. In addition to the discussion below, see Note 10 of our 2012 consolidated financial statements.

Our board of directors administers our share option plans and subject to the required approval procedure of compensation to office holders under the Companies Law (for additional information on the approval procedure of compensation to office holders, please see Approval Required for Directors' and Officers' Compensation under “Item 6. Directors, Senior Management and Employees”), 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 (2000)

The Compugen Share Option Plan (2000), or the "2000 Option Plan", enabled granting options for up to an aggregate of 10,191,511 ordinary shares of the Company to our and our subsidiaries' employees, directors and consultants. No further options are being granted under this plan following a July 25, 2010 decision of our board of directors which resolved to cancel the shares then remaining available for grant under the 2000 Option Plan. As of December 31, 2012, options to purchase 4,065,915 ordinary shares at a weighted average exercise price of approximately $2.77 per share were outstanding (i.e., were granted but not canceled, expired or exercised) under the 2000 Plan. Options to purchase 3,636,224 ordinary shares under the plan have previously been exercised at a weighted average exercise price of approximately $2.74.

Compugen 2010 Share Incentive Plan

On July 25, 2010, our board of directors adopted the Compugen 2010 Share Incentive Plan or the "2010 Option Plan", and determined to cease making grants under the 2000 Option Plan. The adoption of the 2010 Option Plan was approved by our shareholders on May 12, 2011. In addition, the board of directors and shareholders resolved that the options available for grants under the 2000 Options Plan, at such time, as well as any options that may return to such pool in connection with terminated options, will be made available for future grants under the 2010 Options Plan. 1,953,851 shares were initially reserved for the grant under the 2010 Options Plan. In keeping with our board of directors' and shareholders' resolution any shares subject to options granted under the 2000 Option Planprior to the adoption of the 2010 Options Plan which terminate unexercised, will also be made available for future grants under the 2010 Options Plan. On August 06, 2012 our board of directors adopted certain amendments to the 2010 Option Plan which, among other things, provided for additional types of awards, namely restricted share and restricted share unit awards.

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 (and other than by reason of death or disability, as defined in the 2010 Option Plan), the term of his or her unexercised options will generally expire in 90 days, unless determined otherwise by our board of directors. As of December 31, 2012, options to purchase 2,523,300 ordinary shares at a weighted average exercise price of approximately $4.26 per share were outstanding (i.e., were granted but not canceled, expired or exercised) under the 2010 Options Plan. No options under this plan have previously been exercised. Options to purchase 2,969,072 ordinary shares remain available for future grant as of December 31, 2012.

Administration of our Share Options Plans

Our board of directors has elected the "Capital Gains Track" (as defined in Section 102(b)(2) of the Israeli Income Tax Ordinance (New Version), 1961 (the "Tax Ordinance") or the "Tax Ordinance") for the grant of options to Israeli grantees.

As a result of an amendment to Section 102 of the Tax Ordinance and pursuant to an election made by our board of directors thereunder, gains derived by employees (which term includes directors) in Israel arising from the sale of Restricted Shares or shares delivered in settlement of RSUs or acquired pursuant to the exercise of options granted to them through a trustee under Section 102 of the Tax Ordinance after January 1, 2003, will generally be subject to a flat capital gains tax rate of 25%, although these gains may also include a salary income component. As a result of this election under Section 102, the Company will not, in the case of equity awards made on or after January 1, 2003, be allowed to claim as an expense for tax purposes in Israel the amounts credited to the employee as capital gains, although it will generally be entitled to do so in respect of the salary income component (if any) of such awards when the related tax is paid by the employee.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. MAJOR SHAREHOLDERS

The following table sets forth certain information regarding beneficial ownership of our ordinary shares as of February 28, 2013 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	
Martin Gerstel (1)	2,385,015	6.31	%

(1) Includes (i) 500,000 shares held by Shomar Corporation, an affiliate of Mr. Gerstel, (ii) 619,033 shares held by Merrill Lynch IRA for Martin S. Gerstel, of which Martin S. Gerstel is the beneficiary, and (iii) 734,735 shares held in a trust for which Martin S. Gerstel and his immediate family are the beneficiaries. Also includes 531,247 shares subject to options that are currently exercisable or that become exercisable within 60 days after February 28, 2013 with a weighted average exercise price of $0.76 per share and which expire between January 2019 and February 2020.

As of February 28, 2013, there were a total of 71 holders of record of our ordinary shares, of which 49 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. Our ordinary shares are traded on the NASDAQ Capital Market in the United States. A significant portion of our shares are held in street name, therefore we generally have no way of determining who our shareholders are, their geographical location or how many shares a particular shareholder owns.

Significant Changes in Share Ownership

The following table shows changes over the last three years in the percentage ownership by major shareholders:

Name of Beneficial Owner	Percentage of Outstanding Ordinary Shares Owned as of December 31, 2010	Percentage of Outstanding Ordinary Shares Owned as of Fenruary 29, 2012	Percentage of Outstanding Ordinary Shares Owned as of February 28, 2013
Martin Gerstel	6.21 %	6.29 %	6.31 %
Clearbridge Advisors LLC (2)	6.06 %	6.23 %	(1)
Morgan Stanley (3)	5.18 %	5.38 %	(1)

(1) Percentage of outstanding shares as of such date is unknown, but is less than 5%.
(2) Percentage of outstanding shares owned as of December 31, 2010 is based solely on a Schedule 13G/A filed with the SEC on February 11, 2011. Percentage of shares outstanding as of February 29, 2012 is based solely on a Schedule 13G/A filed with the SEC on February 14, 2012.
(3) Percentage of outstanding shares owned as of December 31, 2010 is based solely on a Schedule 13G/A filed with the SEC on February 14, 2011. Percentage of shares outstanding as of February 29, 2012 is based solely on a Schedule 13G/A filed with the SEC on February 10, 2012.

B. RELATED PARTY TRANSACTIONS

Martin Gerstel, our Chairman of the board of directors has an employment agreement with the Company pursuant to which he serves as active Chairman of the board of directors. For additional information on the employment agreement entered into with Mr. Martin Gerstel, please see Compensation to our Office Holders under “Item 6 – Directors, Senior Management and Employees”).

In addition, our shareholders approved that all non-management members of our board of directors are entitled to receive fees in connection with their participation in board of directors meetings as well as meetings of committees of the board of directors and are also eligible to receive options to purchase our ordinary shares on an annual basis.

Furthermore, our directors and officers are currently covered by a directors’ and officers’ liability policy and our directors and certain other office holders have been provided with indemnification and exemption. For additional information on the compensation paid to our non-management directors, please see Compensation to our Office Holders under “Item 6 – Directors, Senior Management and Employees”).

C. INTERESTS OF EXPERTS AND COUNSEL

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. CONSOLIDATED STATEMENTS AND OTHER FINANCIAL INFORMATION

Consolidated Financial Statements

Our consolidated financial statements are included beginning on page F-1 of this annual report.

Legal Proceedings

Currently, we are not a party to any legal or arbitration proceedings, including governmental proceedings that are pending or known to be contemplated, that our management believes, individually or in the aggregate, may have, or have had in the recent past, a significant effect on our financial position or profitability, nor are we party to any material proceeding in which any director, member of our senior management or affiliate is a party adverse to us or our subsidiaries or has a material interest adverse to us or our subsidiaries.

Dividend Distribution Policy

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 and/or Benefiting Enterprise program, we would be required to recapture the deferred corporate income applicable to the amount distributed (grossed up to reflect such tax) at the rate that would have been applicable had such income not been tax-exempted (up to 25%), which would be in addition to the tax payable by the dividend payee. See Note 11 of our 2012 consolidated financial statements and “Item 10. Taxation.” Cash dividends may be paid by an Israeli company only out of profits as defined for such purpose under Israeli law and provided that the distribution does not create a reasonable concern that the company will be unable to meet its existing and anticipated obligations as they become due. We currently have no retained earnings and do not expect to have any retained earnings in the foreseeable future.

B. SIGNIFICANT CHANGES

See Note 16 of our 2012 consolidated financial statements.

ITEM 9. THE OFFER AND LISTING

A. OFFER AND LISTING DETAILS

Our ordinary shares were listed on The NASDAQ Global Market through June 16, 2009. On June 17, 2010, we transferred the listing of our ordinary shares from The NASDAQ Global Market to The NASDAQ Capital Market. The high and low sales prices per share of our ordinary shares for the periods indicated are set forth below:

Year Ended	High	Low
December 31, 2008	$ 2.80	$ 0.34
December 31, 2009	$ 5.86	$ 0.39
December 31, 2010	$ 5.32	$ 3.04
December 31, 2011	$ 5.80	$ 3.32
December 31, 2012	$ 6.47	$ 2.96
Quarter Ended		
March 31, 2011	$ 5.80	$ 4.64
June 30, 2011	$ 5.15	$ 3.75

September 30, 2011	$ 4.67	$ 3.32
December 31, 2011	$ 5.35	$ 3.78
March 31, 2012	$ 6.47	$ 4.96
June 30, 2012	$ 6.19	$ 3.33
September 30, 2012	$ 4.50	$ 2.96
December 31, 2012	$ 5.86	$ 3.53

Month Ended		
September 30, 2012	$ 4.50	$ 3.45
October 31, 2012	$ 4.43	$ 3.53
November 30, 2012	$ 4.60	$ 3.59
December 31, 2012	$ 5.86	$ 4.50
January 31, 2013	$ 5.88	$ 4.84
February 28, 2013	$ 5.66	$ 4.97

The high and low sales prices per share of our ordinary shares on the Tel Aviv Stock Exchange for the periods indicated are set forth below. The currency in which our stock is traded on the Tel Aviv Stock Exchange is the New Israeli Shekel, or NIS. The below dollar amounts represent a conversion from NIS to dollar amounts in accordance with the dollar - NIS conversion rate as of the relevant date.

Year Ended	High*	Low*
December 31, 2008	$ 2.81	$ 0.41
December 31, 2009	$ 6.06	$ 0.42
December 31, 2010	$ 5.64	$ 3.08
December 31, 2011	$ 5.92	$ 3.27
December 31, 2012	$ 6.35	$ 3.03
Quarter Ended		
March 31, 2011	$ 5.92	$ 4.64
June 30, 2011	$ 5.21	$ 3.80
September 30, 2011	$ 4.71	$ 3.27
December 31, 2011	$ 5.23	$ 3.76
March 31, 2012	$ 6.25	$ 4.95
June 30, 2012	$ 6.35	$ 3.30
September 30, 2012	$ 4.47	$ 3.03
December 31, 2012	$ 5.81	$ 3.59
Month Ended		
September 30, 2012	$ 4.47	$ 3.41
October 31, 2012	$ 4.38	$ 3.59
November 30, 2012	$ 4.66	$ 3.62
December 31, 2012	$ 5.81	$ 4.57
January 31, 2013	$ 6.05	$ 4.82
February 28, 2013	$ 5.83	$ 4.94

B. PLAN OF DISTRIBUTION

Not applicable

C. MARKETS

Our ordinary shares are traded in the United States on The NASDAQ Capital Market, and on the Tel Aviv Stock Exchange.

D. SELLING SHAREHOLDERS

Not applicable

E. DILUTION

Not applicable

F. EXPENSES OF THE ISSUE

Not applicable

ITEM 10. ADDITIONAL INFORMATION

A. SHARE CAPITAL

Not applicable

B. MEMORANDUM AND ARTICLES OF ASSOCIATION

Objects and Purposes

We are incorporated under the Companies Law under the name Compugen Ltd., public company number 51-177-963-9. The Memorandum of Association of Compugen Ltd. (the “Memorandum”) was registered on January 29, 1993. On August 4, 2000, the shareholders of the Company adopted new articles of association which constitute the Company's effective Articles of Association as of the date hereof. The objective of the Company as stated in our incorporation documents is to engage in any lawful activity for which companies may be organized under the Companies Law.

Fiduciary Duties of Office Holders

The Companies Law imposes on all office holders of a company fiduciary duties which consist of a duty of care and a duty of loyalty. The duty of care requires an office holder to act with the standard of skills with which a reasonable office holder in the same position would have acted under the same circumstances. The duty of care includes a duty to use reasonable means to obtain:

- information regarding the business advisability of a given action brought for the office holder's approval or performed by the office holder by virtue of his or her position; and
- all other information of importance pertaining to the aforesaid actions.

The duty of loyalty requires an office holder to act in good faith and for the benefit of the company and includes the duty to:

- refrain from any act involving a conflict of interest between the fulfillment of his or her position in the company and the fulfillment of any other position or his or her personal affairs;
- refrain from any act that is competitive with the business of the company;
- refrain from exploiting any business opportunity of the company with the aim of obtaining a personal gain for himself or herself or for others; and
- disclose to the company all information and provide it with all documents relating to the company's affairs which the office holder obtained due to his or her position in the company.

Each person listed in the table under "Directors and Senior Management" which is displayed under "Item 6. Directors, Senior Management and Employees", along with our VP Human Resources Dorit Amitay, VP Research and Discovery Zurit Levine, VP Development Eyal Neria, VP Business Development Tsipi Keren-Lehrer, and our general counsel Tami Fishman Jutkowitz is considered an office holder under the Companies Law.

Conflict of interest

Approval of Related Party Transactions

The Companies Law requires that transactions between a company and its office holders or that benefit its office holders be approved as provided for in the Companies Law and the company's articles of association. The approval of a majority of the disinterested members of the audit committee and of the board of directors is generally required and, in some circumstances, shareholder approval may also be required.

The Companies Law further requires that any arrangement between a company and its office holders as to such office holder's terms of office and employment be approved as provided for in the Companies Law and the company's articles of association and generally requires the approval of the compensation committee and the board of directors and, in some circumstances, shareholder approval may also be required. For additional information on the approval procedure of compensation to office holders, please see Approval Required for Directors' and Officers' Compensation under "Item 6. Directors, Senior Management and Employees-Approval required for Directors' and Officers' Compensation."

Disclosure by Office Holders

The Companies Law requires that an office holder of a company promptly disclose to the company any personal interest that the office holder may have in an existing or proposed transaction by the company. The office holder must also disclose related material information and documents that the office holder has about the existing or proposed transaction. The office holder must further disclose the interests of any entity in which he or she is a 5% or greater shareholder, director or general manager, or in which the office holder has the power to appoint one or more directors or the general manager. If the transaction is an extraordinary transaction, the office holder must also disclose any personal interest of his or her spouse, siblings, parents, grandparents, descendants, spouse's descendants, siblings and parents and the spouses of any of these people. This disclosure must be made no later than the first meeting of the board of directors at which the transaction is discussed. The disclosure is made to the board of directors and to the audit committee if it must approve the transaction. In those circumstances in which shareholder approval is also required, shareholders have the right to review any documents in the company's possession related to the proposed transaction. However, the company may prohibit a shareholder from reviewing the documents if the company believes the request was made in bad faith, the documents include trade secrets or patents or their disclosure could otherwise harm the company's interests.

Approval procedure

After the office holder complies with these disclosure requirements, the company may approve the transaction under the provisions of applicable law and its articles of association. If the transaction is with an office holder or with a third party in which the office holder has a personal interest, the approval must confirm that the transaction is not adverse to the company's interest. If the transaction is an extraordinary transaction, it must be approved as required by the articles of association and must also be approved by the audit committee and the board of directors. An extraordinary transaction is a transaction: (i) other than in the ordinary course of business; (ii) on terms other than on market terms; or (iii) that is likely to have a material impact on the company's profitability, assets or liabilities

In some circumstances, shareholder approval is required. A person with a personal interest in any matter may not generally be present at any audit committee or board of directors meeting where the matter is being considered, and if a member of the committee or a director, may not generally vote on the matter.

Transactions with controlling shareholders

The Companies Law extends the disclosure requirements applicable to an office holder to a controlling shareholder in a public company. A shareholder that holds 25% or more of the voting rights in a company would be considered a controlling shareholder for the purposes of these disclosure requirements if no other shareholder holds more than 50% of the voting rights. If two or more shareholders are interested parties in the same transaction, their shareholdings are combined for the purposes of calculating percentages. Extraordinary transactions of a public company with a controlling shareholder or in which a controlling shareholder has a personal interest, as well as any engagement by a public company of a controlling shareholder or of such controlling shareholder's relative, directly or indirectly, with respect to the provision of services to the company, and, if such person is also an office holder of such company, with respect to such person's terms of service and employment as an office holder, and if such person is an employee of the company but not an office holder, with respect to such person's employment by the company, generally require the approval of the audit committee (or with respect to terms of office and employment - the compensation committee), the board of directors and the shareholders of the company. If required, shareholder approval must include at least a majority of the shareholders who do not have a personal interest in the transaction and are present and voting at the meeting. Alternatively, the total shareholdings of the disinterested shareholders who vote against the transaction must not represent more than two percent of the voting rights in the company. The Israeli Minister of Justice may determine a different percentage. Transactions that are for a period of more than three years generally need to be brought for approval in accordance with the above procedure every three years.

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

Rights Attached To Our Shares

Our authorized share capital is NIS 1,000,000 divided into 100,000,000 ordinary shares of nominal (par) value NIS 0.01 each. Subject to our Articles, the ordinary shares of the company confer on the holders thereof rights to receive notice of, attend, and vote in meetings of the shareholders, rights to receive dividends and rights to receive a distribution of assets upon liquidation. These rights may be affected by the grant of preferential, deferred or other special rights to the shareholders of a class of shares that may be authorized in the future. No preferred shares are currently authorized. All outstanding ordinary shares are validly issued and fully paid. 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 shares having preferred rights to receive dividends.

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Transfer of Shares

Our ordinary shares are issued in registered form and may be freely transferred pursuant to our Articles unless such transfer is prohibited by another instrument or by applicable securities laws.

Dividend and Liquidation Rights

Our Articles provide that our board of directors, may, subject to the applicable provisions of the Companies Law, from time to time, declare and cause the Company to pay such dividends as may appear to the board of directors to be justified by the profits of our Company. Subject to the rights of the holders of shares with preferential special or deferred rights that may be authorized in the future, holders of ordinary shares are entitled to receive dividends according to their rights and interests in our profits. Dividends, to the extent declared, are distributed according to the proportion of the nominal (par) value paid up on account of the shares held at the date so appointed by the Company, without regard to the premium paid in excess of the nominal (par) value, if any. Under the Companies Law, a company may distribute a dividend only if the distribution does not create a reasonable concern that the company will be unable to meet its existing and anticipated obligations as they become due. A company may only distribute a dividend out of its profits, as defined under the Companies Law. If the company does not meet the profit requirement, a court may nevertheless allow the company to distribute a dividend, as long as the court is convinced that there is no reasonable concern that such distribution might prevent the company from being able to meet its existing and anticipated obligations as they become due. However, pursuant to our Articles, no dividend shall be paid otherwise than out of the profits of the company.

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 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.

Voting Rights

Subject to the provisions of our Articles, holders of ordinary shares have one vote for each ordinary share held by such shareholder of record, 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. Our ordinary shares do not have cumulative voting rights in the election of directors. As a result, the holders of the majority of the shares present and voting at a shareholders meeting generally 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”.

Liquidation Rights.

In the event of our liquidation, winding up or dissolution, subject to applicable law, our assets available for distribution among the shareholders shall be distributed to the holders of ordinary shares in proportion to their respective percentage holdings. This liquidation right may be affected by the grant of preferential dividends or distribution rights to the holders of a class of shares that may be authorized in the future.

Redemption Provisions.

We may, subject to applicable law and to our Articles, issue redeemable shares and redeem the same upon such terms and conditions as determined by our board of directors.

Capital Calls.

Under our Articles and the Companies Law, the liability of each shareholder for the company's obligations is limited to the unpaid sum, if any, owing to the company in consideration for the issuance of the shares held by such shareholder.

Modification of Rights

Pursuant to our Articles, if at any time our share capital is divided into different classes of shares, the rights attached to any class, unless otherwise provided by our Articles, may be modified or abrogated by the company, by a resolution of the shareholders, subject to the consent in writing of, or sanction of a resolution passed by, the holders of a majority of the issued shares of such class at a separate general meeting of the holders of the shares of such class.

Shareholders Meetings and Resolutions

Our annual general meeting is held once in every calendar year at such time (within a period of not more than fifteen months after the last preceding annual general meeting), and place determined by our board of directors. The Board may, in its discretion, convene additional shareholder meetings and, pursuant to the Companies Law, must convene a meeting upon the demand of two directors or one quarter of the directors in office or upon the demand of the holder or holders of five percent of the Company's issued share capital and one percent of its voting rights or upon the demand of the holder or holders of five percent of the Company's voting rights. The chairman of the board of directors shall preside as chairman at each of our general meetings. If there is no such chairman, or if at any meeting such chairman is not present within fifteen (15) minutes after the time fixed for holding the meeting or is unwilling to act as chairman, then the shareholders present shall choose someone of their number to be chairman. The office of chairman shall not, by itself, entitle the holder thereof to vote at any general meeting nor shall it entitle a second or casting vote. Pursuant to the Companies Law, the holder or holders of one percent of the Company's voting rights may request the inclusion of an item on the agenda of a future shareholder meeting, provided the item is appropriate for discussion at a shareholder meeting. The agenda for a shareholder meeting is determined by the board of directors and must include matters in respect of which the convening of a shareholder meeting was demanded and any matter requested to be included by holder(s) of one percent of the Company's voting rights, as detailed above.

Pursuant to the Companies Law and regulations promulgated thereunder with respect to the convening of general meetings in a public company, shareholder meetings generally require prior notice of not less than 21 days. The function of the annual general meeting is to elect directors in accordance with the Articles, receive and consider the profit and loss account, the balance sheet and the ordinary reports and accounts of the directors and auditors, appoint auditors and transact any other business which under the Articles or applicable law may be transacted by the shareholders of a company in general meeting.

Pursuant to our Articles, the quorum required for a meeting of shareholders consists of at least two shareholders, present in person, by proxy or by proxy card and holding shares conferring in the aggregate thirty-three and a third percent (33.3%) or more of the voting power of our company. If within an hour from the time appointed for the meeting a quorum is not present, the meeting, if convened upon the requisition of shareholders or upon the demand of two directors or one quarter of the directors then in office as detailed above, shall be dissolved, but in any other case it shall stand adjourned to the same day in the following week at the same time and place or any time and place as the chairman may determine with the consent of the holders of a majority of the voting power represented at the meeting in person or by proxy and voting on the question of adjournment. At the adjourned meeting, the required quorum consists of any two shareholders present, in person, by proxy or by proxy card.

Under the Companies Law and our Articles, all resolutions of our shareholders require a simple majority of the shares present, in person by proxy or by proxy card, and voting on the matter, for approval, except with respect to matters which require the approval of a special majority under the Companies Law.

Limitations on the Rights to Own Securities

Our Articles and Israeli law do not restrict the ownership or voting of ordinary shares by non-residents or persons who are not citizens of Israel, except with respect of nationals of countries which are in a state of war with Israel.

Changes in Control

Under the Companies Law, a merger is generally required to be approved by the shareholders and board of directors of each of the merging companies. If the share capital of the company that will not be the surviving company is divided into different classes of shares, the approval of each class is also required, unless determined otherwise by the

court. Similarly, unless an Israeli court determines otherwise, a merger will not be approved if it is objected to by shareholders holding a majority of the voting rights participating and voting at the meeting, after excluding the shares held by the other party to the merger, by any person who holds 25% or more of the other party to the merger or by anyone on their behalf, including by the relatives of or corporations controlled by these persons. In addition, upon the request of a creditor of either party to the proposed merger, an Israeli court may delay or prevent the merger if it concludes that there exists a reasonable concern that, as a result of the merger, the surviving company will be unable to satisfy the obligations of any of the parties to the merger. Further, a merger can be completed only after all approvals have been submitted to the Israeli Companies Registrar and 30 days have passed from the time that shareholder resolutions were adopted in each of the merging companies and 50 days have passed from the time that a proposal for approval of the merger was filed with the Israeli Companies Registrar. In addition, subject to certain exceptions, an acquisition of shares in a public company must be made by means of a tender offer to the extent that as a result of such acquisition the acquirer will hold 25% or more of the voting rights in the company if there is no other holder of 25% or more of the company's voting rights, or hold more than 45% of the voting rights in the company if there is no other holder of more than 45% of the company's voting rights. These tender offer requirements do not apply to companies whose shares are listed for trading outside of Israel if, under local law or the rules of the stock exchange on which their shares are traded, there is a limitation on the percentage of control which may be acquired or the purchaser is required to make a tender offer to the public.

Under the Companies Law, a person may not acquire shares in a public company if, after the acquisition, he will hold more than 90% of the shares or more than 90% of any class of shares of that company, unless a tender offer is made to purchase all of the shares or all of the shares of the particular class. The Companies Law also provides (subject to certain exceptions with respect to shareholders who held more than 90% of a company's shares or of a class of its shares as of February 1, 2000) that as long as a shareholder in a public company holds more than 90% of the company's shares or of a class of shares, that shareholder shall be precluded from purchasing any additional shares. In order that all of the shares that the purchaser offered to purchase be transferred to him by operation of law, one of the following needs to have occurred: (i) the shareholders who declined or did not respond to the tender offer hold less than 5% of the company's outstanding share capital or of the relevant class of shares and the majority of offerees who do not have a personal interest in accepting the tender offer accepted the offer, or (ii) the shareholders who declined or did not respond to the tender offer hold less than 2% of the company's outstanding share capital or of the relevant class of shares

A shareholder that had his or her shares so transferred, whether he or she accepted the tender offer or not, has the right, within six months from the date of acceptance of the tender offer, to petition the court to determine that the tender offer was for less than fair value and that the fair value should be paid as determined by the court. However, the purchaser may provide in its offer that shareholders who accept the tender offer will not be entitled to such right.

If the conditions set forth above are not met, the purchaser may not acquire additional shares of the company from shareholders who accepted the tender offer to the extent that following such acquisition, the purchaser would own more than 90% of the company's shares or of a class of shares. The above restrictions apply, in addition to the acquisition of shares, to the acquisition of voting power.

Changes in Capital

Our Articles enable us to increase or reduce our share capital. Any such changes are subject to the provisions of the Companies Law and must be approved by a resolution duly passed by our shareholders at a general meeting by voting on such change in the capital. In addition, the declaration and payment of dividends in the absence of sufficient retained earnings and profits requires the approval of both our board of directors and an Israeli court. However, pursuant to our Articles, no dividend shall be paid otherwise than out of the profits of the company.

C. MATERIAL CONTRACTS

Please see "Item 5. Operating and Financial Review and Prospects — Results of Operations — Recent Funding Agreements" for a discussion of our material contracts.

D. 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.