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As filed with the Securities and Exchange Commission on September 24, 2010

Registration No. 333- _____

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

Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

QUARK PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

California	**2834**	**94-3192416**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

6501 Dumbarton Circle
Fremont, CA 94555
(510) 402-4020

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

Daniel Zurr, Ph.D.
Chief Executive Officer
6501 Dumbarton Circle
Fremont, CA 94555
(510) 402-4020

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Robert L. Jones, Esq.
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3175 Hanover Street
Palo Alto, CA 94304-1130
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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415

under the Securities Act of 1933, check the following box. ☐

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

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

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

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

Large accelerated filer ☐	Accelerated filer ☐	Non-accelerated filer ☒	Smaller reporting company ☐

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CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed maximum aggregate offering price[1]	Amount of registration fee[2]
Units, each consisting of share Common Stock, $0.001 par value, and Warrant	$ (3)	$ (3)
Common Stock, $0.001 par value per share, included as part of the Units	—	—[4]
Warrants included as part of the Units	—	—[4]
Common Stock, $0.001 par value per share, underlying the Warrants included in the Units	$ (3)	$ (3)
Total	$ 20,000,000	$ 1,426[5]

(1) Estimated solely for the purpose of calculating the amount of the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended.

(2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

(3) There are being registered hereunder such indeterminate number of shares of common stock and warrants to purchase common stock as shall have an aggregate initial offering price not to exceed $20,000,000. The securities registered also include such indeterminate number of shares of common stock as may be issued upon exercise of such warrants, and such $20,000,000 aggregate initial offering price also includes the additional consideration to be received in connection with the exercise of such warrants.

(4) No fee pursuant to Rule 457(i).

(5) The registrant previously paid a registration fee of $2,648 with a registration statement on Form S-1, File No. 333-141682, initially filed with the Securities and Exchange Commission on March 30, 2007. Pursuant to Rule 457(p), the previously paid registration fee is offset against the registration fee otherwise due for this registration statement.

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

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

SUBJECT TO COMPLETION, DATED SEPTEMBER 24, 2010

PRELIMINARY PROSPECTUS

QUARK PHARMACEUTICALS, INC.

Offering of Units
Each Unit consisting of Shares of Common Stock and Warrants

Quark Pharmaceuticals, Inc. is offering on a best efforts basis units, with each unit consisting of shares of common stock, par value $0.001 per share, and warrants. This is our initial public offering, and no public market currently exists for our units or our common stock or our warrants. The initial public offering price will be not less than per unit, as will be determined in the tender.

Each warrant shall be exercisable into one share of our common stock at an exercise price of per share. The warrants will be exercisable for years from the date on which they are issued. Upon the closing of the offering, the shares of our common stock and the warrants comprising the units will be issued and will trade separately on the Tel Aviv Stock Exchange, or TASE.

The offering price per unit will be determined in an auction process on the TASE. For further details regarding the auction process, see under the heading "Plan of Distribution" beginning on page 120 of this prospectus. We have appointed a member of the TASE to act as our offering coordinator to administrate the offering. This offering is not underwritten.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 10.

	Per Share	Total
Public minimum offering price	$	$
Distribution commissions	$	$
Minimum proceeds, before expenses, to Quark Pharmaceuticals, Inc.	$	$

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2010

QUARK PHARMACEUTICALS, INC.

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You should rely only on the information contained in this prospectus and any free-writing prospectus that we authorize to be distributed to you. We have not authorized anyone to provide you with information different from or in addition to that contained in this prospectus or any related free-writing prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. We are offering to sell, and are seeking offers to buy, shares of common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of the common stock. Our business, financial conditions, results of operations and prospects may have changed since that date.

This prospectus contains market data and industry forecasts that were obtained from industry publications. We have not independently verified any of this information.

SUMMARY

This summary highlights selected information appearing elsewhere in this prospectus and does not contain all the information you should consider before investing in our common stock. You should carefully read this prospectus in its entirety before investing in our common stock, including the section entitled "Risk Factors," and our financial statements and related notes included elsewhere in this prospectus.

Our Business

We are a clinical-stage pharmaceutical company engaged in discovering and developing novel RNAi interference or RNAi-based therapeutics. We have a fully integrated drug development platform that spans therapeutic target identification based on our proprietary gene discovery science and technology, to clinical drug development. We have initially been focusing on RNAi-based therapeutics for the treatment of diseases associated with oxidative stress and ischemic injury. We believe that our insight into the molecular mechanisms underlying these diseases, combined with our ability to design, chemically modify and successfully deliver synthetic small-interfering RNA, or siRNA, to specific organs in the body, enables us to rapidly develop drug candidates, often directed against the same target across multiple therapeutic areas. We have three product candidates in clinical development in five different indications: PF 655 (previously RTP801i-14) for the treatment of diabetic macular edema and for wet age-related macular degeneration; QPI 1002 (previously I5NP or AKIi-5) for the prevention of acute kidney injury and for the prevention of delayed graft function in kidney transplant patients; and QPI 1007 for ocular neuroprotection. We have licensed PF-655 to Pfizer on an exclusive worldwide basis and we granted an option for an exclusive license to QPI-1002 to Novartis. We have a broad pipeline based on our internally developed and proprietary chemically modified siRNA structures. Several of our product candidates are based on novel targets and therapeutic concepts discovered using our BiFAR target gene discovery platform. We believe that our platform technologies, siRNA capabilities and intellectual property combined with proven expertise of our regulatory, medical, preclinical and clinical development group will enable us to continue to advance new product candidates into clinical development, either directly or through collaborations with major pharmaceuticals companies.

RNAi Overview

RNA interference, or RNAi, is a recently discovered process that occurs naturally within cells and, facilitated by siRNA, selectively silences the activity of specific genes. Genes are the basic units of inheritance. Genes provide cells with instructions for producing proteins encoded by them. Many human diseases are caused by the abnormal behavior of proteins. The ability to stop or reduce production of a protein by selectively silencing the gene that directs its synthesis could be very beneficial in the treatment of disease. We believe that RNAi-based therapeutics potentially have significant advantages over traditional therapies, including broad applicability to treat many diseases, the ability to selectively inhibit expression of disease-associated target genes, inherent drug potency and shortened drug discovery timelines. To date, the major challenges in the development of RNAi-based therapeutics has been delivery of siRNA molecules to the organ and cells relevant to a particular disease as well as siRNA drug specificity, nuclease stability and pro-inflammatory properties associated with innate immune response.

Our Approach

Our insight into the pathogenesis of diseases, combined with our proprietary targets and concepts and our siRNA delivery strategies, led us to select siRNA as the modality for our clinical programs. We believe that our integrated discovery and development approach, our siRNA technology platform and intellectual property are particularly well-suited to RNAi-based therapeutics and are based on the following main capabilities:

- *Identifying clinically attractive drug targets and concepts, often but not exclusively using our BiFAR discovery platform.* Using our BiFAR discovery platform, we have identified and validated many gene and protein targets for diseases, including diseases associated with oxidative stress and ischemic injury. Our current clinical programs focus on diseases in organs that we viewed as attractive based on our ability to successfully deliver our siRNA molecules to the target cells in that organ.

- *Selection of diseases associated with oxidative stress/ischemic injury across several therapeutic areas for the same target*. We believe that our focus on diseases, which share common molecular mechanisms, will enable us to more quickly identify drug candidates capable of treating multiple diseases based on proprietary targets common to diseases in different organs of the body. For example, we have demonstrated in preclinical models that inhibition of the RTP801 gene has beneficial therapeutic effects in various diseases associated with oxidative stress, such as wet age-related macular degeneration in the eye and chronic obstructive pulmonary disease, or COPD in the lung. Furthermore, we have also demonstrated that temporary and reversible inhibition of the gene p53 limits the injury caused by oxidative stress in the kidney and in the inner ear, and thus is potentially useful for the treatment of acute renal failure and acute hearing loss.
- *Designing and modifying our siRNA molecules to enable successful local or systemic delivery*. Our siRNA drug candidates have a chemically modified, stabilized structure and properties that we believe offer significant advantages over standard siRNAs. In preclinical studies, we have successfully delivered siRNA molecules and suppressed target genes in the back of the eye, inner ear, proximal tubules of the kidney, lung and spinal cord, demonstrating both local and systemic delivery. We select the route of delivery that is clinically relevant for the given organ. Two of our siRNAs were delivered via local administration to the back of the eye in Phase I and Phase II studies. Our QPI-1002 was, according to publicly available information, the first siRNA administered systemically to human patients.
- *Optimizing our siRNA molecules for improved potency, stability and selectivity*. We use our internally developed siRNA structure and intellectual property to design lead drug candidates with enhanced properties and intellectual property position.

We believe that our approach has the potential to generate several additional Investigational New Drug applications, or INDs, in the coming years, either for new indications for the same drug or for new drugs.

In addition, our BiFAR target discovery platform directly identifies clinically relevant critical genes and proteins that are responsible for certain disease traits, has historically been important to us. We have applied this platform in several disease programs. The application of the BiFAR platform to diseases associated with oxidative stress yielded our pool of proprietary targets from which we have derived our current product candidates. In addition, from 1995 through 2005, the BiFAR platform allowed us to generate cash for our operations as well as rights to potential products through agreements with several pharmaceutical companies. Through December 31, 2005, we had received from these research collaborators an aggregate of approximately $78.7 million for research and development funding, milestone payments or as equity investments.

Our Product Candidates

The following table sets forth the status of our product pipeline:

Product Candidate	Indication	Status	Commercialization Rights
PF-655	Diabetic Macular Edema	Phase II DEGAS study ongoing, enrollment completed	Pfizer (Worldwide)
PF-655	Wet Age-related Macular Degeneration	Phase II MONET study ongoing, enrollment completed	Pfizer (Worldwide)
QPI-1002	Acute Kidney Injury	Phase II expected to initiate dosing in the first half of 2011	Option granted to Novartis for Worldwide rights

Product Candidate	Indication	Status	Commercialization Rights
QPI-1002	Delayed Graft Function in Kidney Transplant patients	Phase II ongoing (Interim analysis expected by mid 2012)	Option granted to Novartis for Worldwide rights
QPI-1007	Non Arteritic Anterior Ischemic Optic Neuropathy	Phase I (Dosing and preliminary review of data expected to be completed during the first half of 2011)	Quark (Worldwide)
QPI-1007	Acute Glaucoma indication	Preclinical toxicity studies initiated to enable Phase 2 multiple dosing	Quark (Worldwide)
Program for pipeline siRNAs for neuro protection and neural regeneration	Diseases of the central nervous system, eyes, ears, spinal cord injury, peripheral nerve injuries, neuropathic pain, hearing loss conditions, vestibular diseases.	*In vivo* proof-of-concept was accomplished in spinal cord injury with a drug candidate with endpoints of post-injury recovery and reduction of neuropathic pain. Further in vivo studies are ongoing in several indications, including glaucoma, hearing loss and others	Quark (Worldwide)
Program for respiratory system conditions	Acute Lung Injury, Lung Transplantation	*In vivo* proof-of-concept studies were accomplished in lung transplantation models. Further in vivo studies are ongoing	Quark (Worldwide)
Program for chronic conditions by systemic administration of siRNA	Chronic Kidney Disease Cancer	Delivery studies and *in vivo* proof-of-concept studies at various stages.	Quark (Worldwide)
Fibrotic diseases in collaboration with Nitto Denko	Fibrotic conditions in the liver and other organs	Preliminary proof of concept was successfully performed by Nitto Denko. We are currently performing siRNA design and delivery studies.	Nitto Denko (Worldwide)

PF-655 Phase II for Diabetic Macular Edema and for Wet Age-Related Macular Degeneration. PF-655 is in two Phase II clinical trials for the treatment of diabetic macular edema and for the treatment of wet age-related macular degeneration. PF-655 is a stabilized, synthetic, chemically modified siRNA that inhibits our proprietary target RTP801, a gene we believe plays a significant role in wet age-related macular degeneration and diabetic macular edema. Wet age-related macular degeneration is the leading cause of central vision loss in the elderly and occurs when the light sensing cells in the central portion of the retina, called the macula, malfunction and over time cease to work. Diabetic macular edema is the result of retinal microvascular changes that occur in patients with diabetes and is the major cause of visual impairment in diabetic patients. We have licensed PF-655 to Pfizer on an exclusive worldwide basis. We have successfully completed our Phase I/IIa clinical trial in age-related macular degeneration patients, with no dose-limiting toxicities observed and clinically meaningful changes observed in visual acuity in patients. Pfizer is conducting the Phase II

clinical trials in collaboration with us. Enrollment in both Phase II trials was completed. In the Phase II DEGAS trial for diabetic macular edema we expect to complete dosing and one year follow-up on all patients by the end of 2010. Depending on the results, Pfizer may decide to initiate preparations for Phase III clinical trial or to initiate a Phase IIb trial or may stop trials. In the Phase II MONET trial for age-related macular degeneration we expect to completed dosing and initial follow-up by the end of 2010. Depending on the results, Pfizer may initiate a dose-ranging Phase IIb clinical trial in age-related macular degeneration.

QPI-1002 for Acute Kidney Injury and Delayed Graft Function. We completed two Phase I trials for the prevention of acute kidney injury in patients undergoing major cardiac surgery and for prevention of delayed graft function in kidney transplant patients. In both trials, QPI 1002 was administered systemically via intravenous injection with no dose-limiting toxicities observed. Based on publicly available information, we believe that this was the first siRNA administered systemically in a human clinical trial. QPI-1002 is a synthetic, chemically modified siRNA molecule designed to temporarily inhibit the expression of p53, a gene we believe plays a significant role in ischemic injury related conditions in the kidney. Acute kidney injury is a syndrome characterized by a rapid decline of kidney function leading to death in a high percentage of cases. Major cardiovascular surgery is one of the many causes of acute kidney injury. Currently, there are no effective drug therapies to prevent acute kidney injury. Delayed graft function results most often from ischemia-reperfusion injury that can occur during the transplantation process and is particularly common in kidneys from deceased donors. Delayed graft function is associated with poorer long-term outcome for the kidney transplant patient, with increased incidence of acute rejection, increased hospital stays and increased consumption of peri-transplant resources. We have recently initiated dosing in a Phase II trial for delayed graft function and expect to initiate dosing in a Phase II clinical trial for AKI within the first half of 2011. In August 2010 we granted to Novartis an option for a worldwide exclusive license to QPI-1002 for all indications.

QPI 1007 for Non arteritic Anterior Ischemic Optic Neuropathy. QPI-1007 is being developed as a neuroprotective agent for the treatment of sudden vision loss associated with non-arteritic anterior ischemic optic neuropathy. We are conducting a Phase I trial to evaluate the safety and tolerability of OPI-1007 in patients suffering from of non-arteritic anterior ischemic optic neuropathy. QPI-1007 is a chemically modified siRNA and it is our first drug candidate based on novel siRNA structures developed internally by Quark. QPI-1007 is designed to inhibit the expression of the pro-apoptotic gene, caspase 2, via the RNAi pathway. Apoptosis (programmed cell death) is thought to be the main cause of the death of retinal ganglion cells in non-arteritic anterior ischemic optic neuropathy and glaucoma. In preclinical studies, QPI-1007 was effective in preserving retinal ganglion cell integrity in three different ocular disease models of retinal ganglion cell damage. If OPI 1007 determined to be safe and effective in non-arteritic anterior ischemic optic neuropathy we may develop QPI-1007 also for glaucoma. We expect to complete dosing and have preliminary results in our Phase I clinical trial in the first quarter of 2011. In addition to safety data, we have designed the study to identify a potential trend in biological activity compared to historical data. Depending on the results, we may initiate Phase II trials in an acute glaucoma condition, in non-arteritic anterior ischemic optic neuropathy, in both indications or none of them.

Pipeline Programs: We have three broad programs that aim to design and develop siRNA molecules based on our internally developed siRNA structures to treat diseases that are unmet medical needs. Most of the programs are in proof of concept studies in animal models, a subset of these is in lead candidate optimization stage, some are at the stage of delivery studies in vivo. We expect to file at least one IND application in 2012 based on research in these programs. We also expect to file an IND application in the research program we perform in collaboration with Nitto Denko. Our major internal research and development programs comprise:

- *Neuroprotection and neuorregeneration program*. We include in this category our pipeline programs in diseases of the central nervous system, and diseases of the eyes and ear, in particular those diseases where nerve cell or neuron protection and /or regeneration of the long fibers of a nerve cell, or axons, carrying outgoing sensory and motor messages, is important. Also, in many cases neuronal injury is associated with allodynia, or neuropathic pain. We have demonstrated siRNA delivery to the neurons in several disease conditions listed below and we are developing a novel non-invasive delivery to the back of the eye, inner ear and brain. Our primary siRNA drug

candidate for neuroregeneration and neuropatic pain is a siRNA designed to inhibit expression of a gene called RhoA with which we have shown proof of concept for both end points in spinal cord injury. We are now optimizing RhoA siRNA with the purpose of generating the lead siRNA for formal preclinical development. In line with our strategy of developing a drug candidate in several diseases based on common pathological mechanism. we are testing RhoA siRNA, together with siRNAs targeting other genes involved in neuroprotection in animal models for spinal cord injury, optic nerve regeneration, neuropathic pain, hearing loss and vestibular diseases such as Meneiere's disease, and other central nervous system diseases based on invasive and non invasive delivery to the back of the eye, inner ear and brain.

- *Respiratory and inflammatory diseases program*. Based on siRNA delivery by inhalation we have shown proof of concept for our dual siRNA drug candidate for prevention of primary graft dysfunction an animal model of lung transplantation. The drug candidate, targeting the TLR2 and TLR 4 genes that have important function in inflammatory processes. This drug cocktail may be useful for treatment of acute lung injury in conditions other than lung transplantation since the pathological mechanism of response to ischemic injury is unchanged.
- *Treatment of chronic diseases by systemic administration*. This category includes our development for treatment of chronic kidney disease and cancer indications. We are currently performing delivery optimization studies.

Fibrotic diseases in collaboration with Nitto Denko. No effective treatments are available for most of the serious fibrotic diseases and our objective is to develop potential therapies within our fully-funded collaboration with Nitto Denko. The collaboration aims to develop one or more new siRNA drugs that may offer an effective treatment to fibrotic diseases. The collaboration utilizes Quark's technology and intellectual property in RNAi, potentially combined with Nitto Denko's delivery technology to identify, select, optimize and develop a new siRNA drug based on a therapeutic concept and target gene identified by Nitto Denko and its collaborating scientists. While the initial disease indication for development is yet to be determined by joint teams of Quark and Nitto Denko, potential diseases include liver fibrosis, lung fibrosis, bone marrow fibrosis and kidney fibrosis, all major unmet medical needs. Quark successfully performed a feasibility study funded by Nitto Denko confirming the validity of the concept of treating fibrotic disease with an siRNA drug inhibiting the Nitto Denko target gene. The collaboration was initiated in July 2010. We expect to file a first IND application in 2012.

siRNA Technology Development

We have an ongoing program that aims to develop new siRNA-related technologies and to improve our current technology platform and our intellectual property position in the RNAi space. This program has two arms:

- *Development of novel siRNA structures* that are free from third party IP. We have developed a number of novel structures and filed six patent applications to date. Based on our understanding of the siRNA mechanism, this program uses our siRNA expertise to identify critical positions and chemical modification patterns to enhance activity, reduce unwanted or off-target effects, minimize unwanted immune response effects and increase the stability of our siRNA drug candidates.
- *Development of proprietary drug delivery methods*. This program includes novel non- invasive delivery of siRNA to the inner ear, brain, back of the eye and novel methods of delivery to tumor cells.

Israeli National siRNA Project Consortium

The Israeli Chief Scientist and the head of the research and development national projects conditionally approved the establishment of a consortium headed by the wholly owned subsidiary of Quark, QBI Enterprises Ltd (QBI), together with several leading members of the industry and prominent scientists in academia in Israel, to develop novel generic technologies in the field of RNAi. The approval of a national project for siRNA is recognition of the government of Israel to financially support a project of national importance that can potentially create jobs and generate revenues for the state of Israel.

Our License Agreement with Pfizer

In September 2006, we granted Pfizer an exclusive worldwide license to develop and commercialize drug candidates that inhibit our proprietary target gene RTP801 through RNAi. Under the agreement, Pfizer has the exclusive right to develop and commercialize drugs for both ophthalmic and non-ophthalmic indications. Pfizer is responsible for all future preclinical and clinical development costs of the licensed drug candidates, as well as all regulatory filings and approvals. Pfizer is currently performing two Phase II clinical trials in collaboration with us. Israel has been a major source of patients in these two studies. Through June 30, 2010, Pfizer had paid us an aggregate of $51.8 million in up-front fees, cost reimbursements and milestone payments. The agreement provides for up to $299 million in additional development and product approval milestone payments, assuming the development and approval in all major markets of a product for two ophthalmic indications and at least one non-ophthalmic indication. Pfizer is required to pay us royalties on any sales of licensed products and up to an additional $309 million of sales-based milestone payments.

Our Option Agreement with Novartis

In August 2010, we granted Novartis an option for an exclusive worldwide license to develop and commercialize QPI-1002 and any other p53-directed siRNAs controlled by us for any indication. Under the agreement, Novartis will pay us a non-refundable option grant fee of $10 million and has the right to exercise the option during the Phase II trials of QPI-1002. This right will expire on different dates depending on whether interim and/or final results of these trials meet pre-defined criteria. If Novartis exercises the option, Novartis will be responsible for further development following the current Phase II trials and Quark will be entitled to option exercise fees and development, product approval, and sales-based milestone payments of up to $670 million as well as to royalties on sales.

Corporate Information

We were incorporated in California in December 1993 under the name Expression Systems, Inc. In April 1997, we changed our name to Quark Biotech, Inc. In June 2007, we changed our name to Quark Pharmaceuticals, Inc. Our principal executive offices are located at 6501 Dumbarton Circle, Fremont, California, 94555, and our telephone number is (510) 402-4020. Our website address is *www.quarkpharma.com*. The information contained on our website is not incorporated into and does not constitute a part of this prospectus, and the only information that you should rely on in making your decision whether to invest in our common stock is the information contained in this prospectus and any free writing prospectus. As used in this prospectus, references to “Quark,” “our,” “us” and “we” refer collectively to Quark Pharmaceuticals, Inc. and all of its subsidiaries unless the context requires otherwise.

THE OFFERING

Securities offered by us	units, with each unit consisting of one share of common stock and ___ warrants Upon the closing of the offering, the shares of our common stock and the warrants comprising the units will be issued and will trade separately on the TASE
Common stock to be outstanding after this offering	shares
Warrants to be outstanding after this offering	warrants
Use of proceeds	To conduct Phase II clinical trials of our current product candidates QPI 1002 and QPI-1007, a Phase I clinical trial of QPI-1007, and development of our product candidates in preclinical development, all subject to the receipt of necessary regulatory approvals and achievement of other milestones.
Proposed Tel Aviv Stock Exchange symbol	

The number of shares of common stock that will be outstanding immediately after this offering is based on 21,084,630 shares of common stock outstanding as of August 15, 2010 and excludes:

- warrants exercisable for 300,000 shares of Convertible Preferred Stock which are expected to be converted to 300,000 shares of our common stock prior to the completion of this offering;
- 2,543,873 shares of common stock issuable upon the exercise of outstanding options with a weighted average exercise price of $1.69 per share;
- 727,149 shares of common stock reserved for future issuance under our 2007 Equity Incentive Plan; and
- shares of common stock reserved for future issuance under our 2010 Employee Stock Purchase Plan.
- Except as otherwise indicated, all information in this prospectus assumes the conversion of all our outstanding shares of preferred stock into 17,696,100 shares of common stock prior to the completion of this offering.

Currently, there is no public market for our common stock in the United States or anywhere else in the world and no assurances can be given that a public market will develop the United States or, if developed, that it will be sustained. We have applied to have our common stock is listed on the TASE. The shares of our common stock and Warrants which are being offered under this prospectus are expected to be listed for trading on TASE promptly after the registration statement filed with the SEC of which this prospectus is a part is declared effective.

Concurrently with the effectiveness of the registration statement of which this prospectus forms a part, we are publishing a Supplemental Notice to an Incomplete Prospectus published by us in Israel which is intended for non-U.S. investors based in Israel. Such investors should refer to the Incomplete Prospectus and the Supplemental Notice, which together form the Israeli prospectus that we filed with the Israel Securities Authority, or ISA, and which will be available at *http://www.magna.isa.gov.il*.

SUMMARY FINANCIAL DATA

The following summary financial data should be read together with our audited financial statements and accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this prospectus. Our historical results are not necessarily indicative of our future results.

	Years Ended December 31,			For the six month ended June 30	
	Audited			Unaudited	
	2007	2008	2009	2009	2010
	(in thousands, except share and per share data)				
Statements of Operations Data:					
Revenues	$ 27,878	$ 17,276	$ 2,655	$ 1,452	$ 1,250
Cost of development services	—	1,719	1,712	936	609
Gross profit	27,878	15,557	943	516	641
Operating costs and expenses:					
Research and development	20,774	18,726	15,744	9,036	7,783
General and administrative	7,055	5,018	5,087	2,618	2,908
Total operating costs and expenses	27,829	23,744	20,831	11,654	10,691
Operating income (loss)	49	(8,187)	(19,888)	(11,138)	(10,050)
Financial income (expenses), net	940	722	87	57	(141)
Income (loss) before income taxes	989	(7,465)	(19,801)	(11,081)	(10,191)
Income taxes	—	(1,667)	160	103	(155)
Net income (loss)	989	(9,132)	(19,641)	(11,184)	(10,346)
Changes of redemption value of Series F and H Preferred Stock	(336)	—	—	—	(1,368)
Deemed dividend as a result of warrants modification	(117)	—	—	—	—
Income attributable to preferred shareholders	536	—	—	—	—
Net loss to common Stockholders	$ (—)	$ (9,132)	$ (19,641)	$ (11,184)	$ (11,714)
Net loss per share of common stock: Basic and diluted income (loss) per share	—	$ (2.76)	$ (5.80)	$ (3.30)	$ (3.46)
Weighted average number of shares used in computing basic and diluted net loss per share:	2,970,351	3,307,871	3,388,119	3,387,514	3,388,530
Proforma net loss per share of common stock:					
Basic and diluted net loss per share pro forma (unaudited)			(1.03)		(0.53)
Weighted average number of shares used in computing basic net loss per share pro forma (unaudited):			19,084,219		19,573,519

	As of June 30, 2010	
	Actual	As adjusted[1]
	(in thousands)	
Balance Sheet Data:		
Cash and cash equivalents	$ 12,425	$
Working capital	9,265	
Total assets	15,630	
Deferred revenues	5	
Redeemable convertible preferred stock	37,000	
Total stockholders' equity (deficiency)	(27,349)	

(1) The as adjusted balance sheet data reflects (i) the conversion of all our outstanding shares of preferred stock into shares of common stock prior to the completion of this offering, and (ii) the sale of units in this offering at an assumed initial public offering price of $ per share, after deducting distribution commissions and estimated offering expenses.

(2) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per unit, would increase (decrease) each of cash and cash equivalents, working capital, total assets and total shareholders' equity by approximately $ million, assuming that the number of units offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting commissions and estimated offering expenses payable by us. We may also increase or decrease the number of units we are offering. Each increase (decrease) of one million units in the number of units offered by us would increase (decrease) each of cash and cash equivalents, working capital, total assets and total shareholders' equity by approximately $ million, assuming that the assumed initial public offering price remains the same, and after deducting the estimated discounts and commissions and offering expenses payable by us. The proforma as adjusted information discussed above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

RISK FACTORS

An investment in our common stock involves a high degree of risk. You should carefully consider the following risks, as well as all of the other information contained in this prospectus, before investing in our common stock. If any of the following possible events actually occur, our business, business prospects, cash flow, results of operations or financial condition could be harmed. In this case, the trading price of our common stock could decline, and you might lose all or part of your investment in our common stock. In assessing these risks, you should also refer to the other information contained in this prospectus, including our financial statements and related notes. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our operations.

Risks Related to Our Business

Our success is dependent on the success of our lead product candidates, PF-655, QPI 1002 and QPI-1007, and we cannot be certain that they will achieve success in clinical trials, that they will receive regulatory approval or be successfully commercialized.

We have three drug candidates in clinical studies in five disease indications. PF-655, is currently being evaluated in two Phase II clinical trials for the treatment of wet age-related macular degeneration and diabetic macular edema, QPI-1002 is being evaluated in a Phase II clinical trial for the prevention of delayed graft function in kidney transplant patients, a Phase II study in cardiovascular surgery patients for the prevention of acute kidney injury will be initiated in 2011, and QPI-1007 is being evaluated in a Phase I clinical study for the treatment of non-arteritic anterior ischemic retinopathy. These drug candidates will require the successful completion of these and other planned Phase II and Phase III clinical trials before we are able to submit a New Drug Application, or NDA, to the U.S. Food and Drug Administration, or FDA, for approval. This process can take many years and require the expenditure of substantial resources. In September 2006, we licensed PF-655 to Pfizer on an exclusive worldwide basis. As a result, we will not control the development of PF-655. Clinical trials required for FDA approval of PF-655, QPI-1002 and QPI-1007 may not be successfully completed. If these clinical trials fail to demonstrate that PF-655, QPI-1002 and QPI-1007 are safe and effective, these drug candidates will not receive approval for marketing. Even if PF-655, QPI-1002 and QPI-1007 receive regulatory approval for marketing, they may never be successfully commercialized. If PF-655, QPI-1002 and QPI-1007 do not receive regulatory approval or are not successfully commercialized, we may not be able to generate revenue, become profitable or continue our operations.

Other than PF-655, QPI-1002 and QPI-1007, all of our other programs are in preclinical studies or early stage research. If we are unable to develop and commercialize our early stage product candidates, our business will be adversely affected.

In addition to our PF-655, QPI-1002 and QPI-2007 drug candidates, a key element of our strategy is to discover, develop and commercialize a portfolio of new products. We are seeking to do so through our internal research programs and intend to explore strategic collaborations for the development of new products. Whether or not any product candidates are ultimately identified, research programs to identify new disease targets and product candidates require substantial technical, financial and human resources. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield a successful commercial product for many reasons, including the following:

- competitors may develop alternatives that render our product candidates obsolete;
- a product candidate may not have a sustainable intellectual property position in major markets;
- a product candidate may, after additional studies, be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective;
- a product candidate may not receive regulatory approval;
- a product candidate may not be capable of production in commercial quantities at an acceptable cost, or at all; or
- a product candidate may not be accepted by patients, the medical community or third-party payors.

There is a limited amount of information upon which you can evaluate our business and prospects.

We have limited experience in drug development and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the biopharmaceutical area. For example, to execute our business plan, we will need to successfully:

- execute product development activities;
- build and maintain a strong intellectual property portfolio;
- obtain regulatory approvals;
- gain market acceptance for our products, if approved;
- develop and maintain successful strategic relationships;
- develop sales and marketing capabilities or collaborate with others for these functions; and
- manage our spending as costs and expenses increase due to clinical trials and in anticipation of regulatory approvals and commercialization.

If we are unsuccessful in accomplishing these objectives, we may not be able to develop product candidates, raise capital, expand our business or continue our operations.

We have a history of losses and may never be profitable.

We have experienced significant operating losses since our inception. As of June 30, 2010 we had accumulated net losses of approximately $104.3 million. To date, we have neither developed any products nor generated any revenues from the sale of products. Further, we do not expect to generate any such revenues in the foreseeable future. We expect to continue to incur annual net operating losses for at least the next several years as we expand our efforts to discover, develop and commercialize novel therapeutics. We anticipate that the majority of any revenue we generate over the next several years will continue to be from collaborations with pharmaceutical companies, but we cannot be certain that we will be able to secure or maintain these collaborations, or meet the obligations associated with these collaborations, or achieve any milestones that we may be required to meet to receive payments.

To become and remain profitable, we must succeed in developing and commercializing novel drugs that achieve market acceptance. This will require us and our licensees and collaborators to be successful in a range of challenging activities, including the preclinical testing and clinical trial stages of development and obtaining regulatory approval, and manufacturing, marketing and selling these product candidates. These activities may not be successful, and we may never generate revenues that are significant enough to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. If we cannot become and remain profitable, the market price of our common stock could decline. In addition, we may be unable to raise capital, expand our business, diversify our product pipeline or continue our operations.

We will require substantial additional funds to continue our research and development activities. If additional funds are not available we may need to significantly scale back or cease our operations.

We have used substantial funds to develop our technologies and will require substantial funds to conduct further research and development, including preclinical testing and clinical trials of any product candidates, and to manufacture and market any products that are approved for commercial sale. Because the successful development of our product candidates is uncertain, we are unable to estimate the actual funds we will require to develop and commercialize them. We anticipate that our current resources, as supplemented by proceeds from this offering and expected research and development funding and milestone payments from our collaborators, will sustain our business through the first half of 2013. We expect our research and development expenses for this period to be between $28 million and $42 million.

Our future capital requirements and the period for which we expect our existing resources to support our operations may vary from what we expect. We have based our expectations on a number of factors, many of which are difficult to predict or are outside of our control, including:

- our progress in demonstrating that siRNAs can be used as drugs;
- progress in our research and development programs, as well as the magnitude of the spending to support these programs;
- the timing, receipt and amount of milestone and other payments, if any, from present and future collaborators;
- our ability to establish and maintain additional collaborative arrangements;
- the resources, time and costs required to initiate and complete our preclinical testing and clinical trials, obtain regulatory approvals, protect our intellectual property and obtain and maintain licenses to third-party intellectual property; and
- the timing, receipt and amount of sales and royalties, if any, from our potential products.

If our estimates and predictions relating to these factors are incorrect, we may need to modify our operating plan.

We will be required to seek additional funding in the future and intend to do so through either collaborative arrangements, public or private equity offerings or debt financings, or a combination of one or more of these funding sources. Additional funds may not be available to us on acceptable terms or at all. In addition, the terms of any financing may adversely affect the holdings or the rights of our shareholders. For example, if we raise additional funds by issuing equity securities, our shareholders will experience further dilution. 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, product candidates or products that we would otherwise pursue on our own.

We expect to rely on revenues from our licensees and collaborators as an important source of revenue. If our relationships with Pfizer, Nitto Denko, Novartis or any future licensees and collaborators are unsuccessful, a collaborator terminates a collaboration or there is competition between us and a collaborator for the development of drugs targeting the same diseases, our business could be adversely affected.

In September 2006, we entered into a license agreement with Pfizer under which we licensed to Pfizer the exclusive worldwide rights to develop and commercialize our RNAi technology based molecules derived from and inhibiting our proprietary target gene RTP-801 for both ophthalmic indications and non-ophthalmic indications. We had acquired some of these rights from Silence Therapeutics, or Silence, formerly known as Atugen AG, under a December 2004 collaboration agreement. We expect that a substantial amount of the funding for our operations could come from our license agreements with Pfizer and Nitto Denko, our option and license agreements with Novartis and other similar agreements we may enter into in the future, through expense reimbursement, milestone payments and, if a product candidate is successfully commercialized, royalties.

Under the Silence agreement, Silence may terminate our license if we fail to achieve development milestones, but these milestones are considered to be satisfied as long as the Pfizer agreement remains in effect. Pfizer may terminate the agreement without cause at any time upon prior written notice. If not terminated, the agreement will remain in effect in each country at least until the expiration of all relevant patents or ten years from the first commercial sale of the licensed product. Pfizer may at any time and for any reason discontinues the development of or regulatory approval process for the drug candidates it licensed from us, and instead elect to commercialize its own proprietary drug candidates or those of other licensors. Additionally, if Pfizer terminates its agreement with us, we would be required under the Silence agreement to achieve a pre-agreed development milestone within a defined time period following the termination. Pfizer has significantly greater financial resources than we do and has far more experience in developing and marketing

drugs, which could put us at a competitive disadvantage if we were to compete with Pfizer in the development of RNAi-based drugs targeting the same disease. If required to develop RTP-801, we may not be able to do so successfully, do so as efficiently as Pfizer or at all. If we are unable to meet the remaining development milestones as specified in our RTP-801 development plan, we may lose our rights to one or more of the Silence patents. Although our agreement with Pfizer grants us the option to take an exclusive license to Pfizer intellectual property relating to RTP-801, this license would then impose an additional cost that may not be commercially feasible. In addition, this option does not extend to (i) Pfizer's intellectual property licensed from third parties under agreements that prohibit transferring rights to another party such as us, and (ii) certain devices Pfizer has used in conjunction with developing RTP-801.

In the future, we hope to enter into similar license or collaboration agreements with pharmaceutical companies for the development of product candidates we may identify. If our relationship with Pfizer or any future collaborations are unsuccessful or terminated early, our business would be adversely affected.

Because we have licensed some of our drug candidates to third parties, we are more dependent on third parties for the successful development and commercialization of those drug candidates.

Our decision to license some of our drug candidates to third parties means we have relinquished control over how those drug candidates are developed and commercialized and how they are perceived in the marketplace. As a result, our success is dependent, in part, on the efforts of those licensees. In addition, our drug candidates may receive negative publicity relating to the activities of our licensees, regardless of whether such publicity is properly attributable to the merits of our drug candidates. If we receive negative publicity based on the activities of our licensees, our business, financial condition and results of operations and the value of our common stock could be materially and adversely affected.

We may not be able to execute our business strategy if we are unable to enter into license or collaboration agreements with other companies that can provide capabilities and funds for the development and commercialization of our drug candidates. If we are unsuccessful in forming or maintaining these relationships, our business may be adversely affected.

We do not have any manufacturing, sales, marketing or distribution capabilities and have limited drug development capabilities. Accordingly, we have and plan to continue to enter into agreements with other companies that can provide such capabilities. For example, we may enter into agreements with major pharmaceutical companies to jointly develop specific drug candidates and to jointly commercialize them if they are approved. In such agreements, we would expect our pharmaceutical collaborators to provide substantial capabilities in clinical development, regulatory affairs, marketing and sales. We may not be successful in entering into any such agreements on favorable terms. Even if we do succeed in securing such agreements, we may not be able to maintain them if, for example, development or approval of a drug candidate is delayed or sales of an approved drug are disappointing. Furthermore, any delay in entering into these agreements could delay the development and commercialization of our drug candidates and reduce their competitiveness even if they reach the market. Any such delay could adversely affect our business.

We have granted licenses or options to license and agreed to collaborate with third parties to fund all or part of the costs of drug development and commercialization, such as our collaboration with Pfizer, as well as collaborations with, Ltd, Mitsubishi Pharma Corporation, Sankyo Co., Ltd., Astellas Pharma Inc., AstraZeneca, Taisho Pharmaceutical Co., Ltd. and Shionogi & Co and Nitto Denko Corp. Except for our collaboration with Pfizer and Nitto Denko, the research funding under each of these agreements has ended. While we may at some point receive payments from certain of these collaboration partners upon the achievement of development milestones by these partners, except for our collaboration with Pfizer and Nitto Denko, none of the agreements are expected to be material to our business in the future. We may not, however, be able to enter into additional collaborations, and the terms of any collaboration agreement we do secure may not be favorable to us. If we are not successful in our efforts to enter into future collaboration arrangements, we may not have sufficient funds to develop drug candidates internally, or to bring any drug candidates to market, which would substantially harm our business.

RNAi-based drug development is unproven and may never lead to marketable products.

Our future success depends on the successful development of products based on RNAi technology. Neither we nor any other company has received regulatory approval to market therapeutics utilizing siRNAs. The scientific discoveries that form the basis for our efforts to discover and develop new siRNA drugs are relatively new. The scientific evidence to support the feasibility of developing drugs based on these discoveries is both preliminary and limited. Skepticism as to the feasibility of developing RNAi therapeutics has been expressed in scientific literature.

Very few drug candidates based on these discoveries have ever been tested in animals or humans. Currently, no drugs based on RNAi technology have been approved or have progressed beyond Phase III clinical trials. We currently have only limited data suggesting that we can introduce into siRNAs the properties typically required of drugs, such as the ability to be stable in the body long enough to reach the tissues in which their effects are required, or the ability to enter cells within these tissues in order to exert their effects. We may make significant expenditures trying to optimize these properties without success. In addition, these compounds may not demonstrate in patients the chemical and pharmacological properties ascribed to them in laboratory studies, and they may interact with human biological systems in unforeseen, ineffective or harmful ways. As a result, we may never succeed in developing a marketable product. If we do not successfully develop and commercialize drugs based upon our siRNA drug candidates, we may not become profitable and the value of our common stock will decline.

Any failure or delay in completing clinical trials for our product candidates could severely harm our business.

Each of our product candidates must undergo extensive preclinical studies and clinical trials as a condition to regulatory approval. Preclinical studies and clinical trials are expensive and take many years to complete. We estimate that clinical trials and related regulatory review in initial indications for our most advanced product candidates, PF-655, QPI 1002 and QPI 1007, will continue for at least several more years, but could take significantly longer to complete. The completion of clinical trials for our product candidates may be delayed or halted for many reasons, including:

- delays or failure in reaching agreement on acceptable clinical trial contracts or clinical trial protocols with prospective sites;
- regulators or institutional review boards may not authorize us to commence a clinical trial;
- our inability, or the inability of our collaborators or licensees, to manufacture or obtain from third parties materials sufficient to complete our preclinical studies and clinical trials;
- delays in patient enrollment, and variability in the number and types of patients available for clinical trials;
- risks associated with trial designs;
- difficulty in maintaining contact with patients after treatment, resulting in incomplete data;
- poor effectiveness of product candidates during clinical trials;
- safety issues, including serious adverse events;
- the failure of patients to complete clinical trials due to side effects, dissatisfaction with the product candidate or other reasons;
- governmental or regulatory delays and changes in regulatory requirements, policy and guidelines; and
- varying interpretation of data by the FDA and similar foreign regulatory agencies.

Clinical trials may require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Our ability to enroll sufficient numbers of patients in our clinical trials depends on many factors, including the size of the patient population, the nature of the protocol, the proximity of patients to clinical sites, the eligibility criteria for the trial and competition for patients from other clinical

trials. Patients participating in the trials may not live through completion of the trial or may suffer adverse medical effects unrelated to treatment with our product candidate. The results from preclinical testing and prior clinical trials may not be predictive of results obtained in later and larger clinical trials. A number of companies in the pharmaceutical industry have suffered significant setbacks in clinical trials, even in advanced clinical trials after showing promising results in earlier clinical trials. Our failure to adequately demonstrate the safety and effectiveness of any of our product candidates will prevent us from receiving regulatory approval and negatively impact our business.

It is possible that none of our product candidates will complete clinical trials in any of the markets in which we intend to sell those product candidates. We also do not know and are unable to predict what clinical trials the FDA will require us to conduct, which could result in additional delays in bringing our product candidates to market. Accordingly, we may not receive the regulatory approvals needed to market our product candidates. Any failure or delay in completing clinical trials for our product candidates would delay commercialization of our product candidates and severely harm our business and financial condition.

We may be unable to obtain U.S. or foreign regulatory approval and, as a result, be unable to commercialize our drug candidates.

Our drug candidates are subject to extensive governmental regulations relating to development, clinical trials, manufacturing and commercialization. Rigorous preclinical testing and clinical trials and an extensive regulatory approval process are required to be successfully completed in the United States and in many foreign jurisdictions before a new drug can be sold. Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. It is possible that none of the drug candidates we may develop will obtain the regulatory approvals necessary for us or our licensees or collaborators to begin selling them.

We have little experience in conducting and managing the clinical trials necessary to obtain regulatory approvals, including approval by the FDA. The time required to obtain FDA and other approvals is unpredictable. Any analysis we perform of data from preclinical and clinical activities is subject to confirmation and interpretation by regulatory authorities, which could delay, limit or prevent regulatory approval. We may also encounter unexpected delays or increased costs due to new government regulations, for example, from future legislation or administrative action, or from changes in FDA policy during the period of product development, clinical trials and FDA regulatory review.

Because the drugs we are intending to develop may represent a new class of drug, the FDA has not yet established any definitive policies, practices or guidelines in relation to these drugs. While we expect any product candidates that we develop will be regulated as a new drug under the Federal Food, Drug, and Cosmetic Act, the FDA could decide to regulate them or other products we may develop as biologics under the Public Health Service Act. The lack of policies, practices or guidelines may hinder or slow review by the FDA of any regulatory filings that we may submit. Moreover, the FDA may respond to these submissions by defining requirements we may not have anticipated. Such responses could lead to significant delays in the clinical development of our product candidates. In addition, because there may be approved treatments for some of the diseases for which we may seek approval, in order to receive regulatory approval, we will need to demonstrate through clinical trials that the product candidates we develop to treat these diseases, if any, are not only safe and effective, but safer or more effective than existing products.

Any delay or failure in obtaining required approvals could have a material adverse effect on our ability to generate revenues from the particular drug candidate. Furthermore, any regulatory approval to market a product may be subject to limitations on the indicated uses for which we may market the product. These limitations may limit the size of the market for the product.

We are also subject to numerous foreign regulatory requirements governing the conduct of clinical trials, manufacturing and marketing authorization, pricing and third-party reimbursement. 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 does not assure approval by regulatory authorities outside the United States.

Even if we obtain regulatory approvals, our marketed drugs will be subject to ongoing regulatory review. If we fail to comply with continuing U.S. and foreign regulations, we could lose our approvals to market drugs and our business would be seriously harmed.

Following any initial regulatory approval of any drugs we may develop, we will also be subject to continuing regulatory review, including the review of adverse drug experiences and clinical results that are reported after our drugs are made commercially available. This would include results from any post-marketing tests or vigilance required as a condition of approval. The manufacturer and manufacturing facilities we use to make any of our drug candidates will also be subject to periodic review and inspection by the FDA. The discovery of any previously unknown problems with the product, manufacturer or facility may result in restrictions on the drug or manufacturer or facility, including withdrawal of the drug from the market. We do not have, and currently do not intend to develop, the ability to manufacture material for our clinical trials or on a commercial scale. We expect to continue to contract with third parties to manufacture these materials for us. Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured products ourselves, including reliance on the third-party manufacturer for regulatory compliance. Our product promotion and advertising will also be subject to regulatory requirements and continuing regulatory review.

If we fail to comply with applicable continuing regulatory requirements, we may be subject to fines, suspension or withdrawal of regulatory approval, product recalls and seizures, operating restrictions and criminal prosecutions.

Our product candidates may never achieve market acceptance even if we obtain regulatory approvals.

Even if we receive regulatory approvals for the commercial sale of our product candidates, the commercial success of these product candidates will depend on, among other things, their acceptance by physicians, patients, third-party payors and other members of the medical community as a therapeutic and cost-effective alternative to competing products and treatments. If our product candidates fail to gain market acceptance, we may be unable to earn sufficient revenue to continue our business. Market acceptance of, and demand for, any product that we may develop and commercialize will depend on many factors, including:

- our ability to provide acceptable evidence of safety and efficacy;
- the prevalence and severity of adverse side effects;
- the availability, relative cost and relative efficacy of alternative and competing treatments;
- the effectiveness of our marketing and distribution strategy;
- publicity concerning our products, if any, or competing products and treatments; and
- our ability to obtain sufficient third-party insurance coverage or reimbursement.

If our approved product candidates, if any, do not become widely accepted by physicians, patients, third-party payors and other members of the medical community, our business, financial condition and results of operation would be materially and adversely affected.

The pharmaceutical market is intensely competitive. If we are unable to compete effectively with existing drugs, new treatment methods and new technologies, we may be unable to commercialize any drugs that we develop.

The pharmaceutical market is intensely competitive and rapidly changing. Many large pharmaceutical and biotechnology companies, academic institutions, governmental agencies and other public and private research organizations are pursuing the development of novel drugs for the same indications that we are targeting or expect to target.

If PF-655 is approved for wet age-related macular degeneration and/or for diabetic macular edema, we anticipate that it would compete with other marketed therapeutics, particularly vascular endothelial growth factor inhibitor drugs, primarily Genentech's Lucentis, approved by the FDA for wet age-related macular degeneration and which has become the standard-of-care for the treatment of wet age-related macular degeneration and under advanced investigation for diabetic macular edema. PF-655 may also face competition from off-label use of Genentech's Avastin, currently approved for the treatment of various cancers. Additional

wet age-related macular degeneration therapeutics that are in development could also compete with PF-655. These include further anti-vascular endothelial growth factor angiogenesis inhibitors drugs. Among these, Alcon Research is evaluating Anacortave Acetate (Retaane), an antiangiogenic synthetic steroid drug, Allergan is developing its siRNA drug candidate AGN211745, Regeneron's intravitreal formulation of soluble decoy receptor vascular endothelial growth factor TRAP is in clinical trails, CoMentis, Inc. is developing ATG3, a topical eye drop therapy, TargeGen, Inc. is developing TG100801, a small molecule, topically applied multi-targeted kinase inhibitor, Alimera is developing pSivida's Iluvien® and intravitreal insert, to deliver fluocinolone acetonide, a corticosteroid, to the retina for up to three years as a treatment for DME and AMD.

We are not aware of specific drugs marketed or in late stage development for the prevention of acute renal failure or of delayed graft function in renal transplant patients that would compete with QPI-1002 if it is approved. However, in response to the unmet medical need, new products could be developed for the prevention of acute renal failure, or existing products could be used off-label, such as Nesiritide, a recombinant form of human B-type natriuretic peptide (hBNP) therapy approved for the treatment of acute congestive heart failure.

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 of products;
- more extensive experience in preclinical testing, conducting clinical trials, obtaining regulatory approvals, and in manufacturing and marketing pharmaceutical products;
- product candidates that are based on previously tested or accepted technologies;
- 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.

We will face intense competition from drugs that have already been approved and accepted by the medical community for the treatment of the indications for which we may develop drugs. We also expect to face competition from new drugs that enter the market. We believe a significant number of drugs are currently under development, and may become commercially available in the future, for the treatment of some conditions for which we are developing or in the future may try to develop drugs, such as wet age-related macular degeneration. Any competitive drugs may be more effective, or marketed and sold more effectively, than any products we develop.

If we successfully develop drug candidates, and obtain approval for them, we will face competition based on many different factors, including:

- the safety and effectiveness of our products;
- the ease with which our products can be administered;
- the timing and scope of regulatory approvals for these products;
- the availability and cost of manufacturing, marketing and sales capabilities;
- price;
- reimbursement coverage; and
- patent position.

Our competitors may develop or commercialize products with significant advantages over any products we develop based on any of the factors listed above or on other factors. Our competitors may therefore be more successful in commercializing their products than we are, which could adversely affect our competitive position and business. Competitive products may make any products we develop obsolete or noncompetitive before we can recover the expenses of developing and commercializing our drug candidates. Furthermore, we also face competition from existing and new treatment methods that reduce or eliminate the need for drugs,

such as the use of advanced medical devices. The development of new medical devices or other treatment methods for the indications we are targeting could make our drug candidates noncompetitive, obsolete or uneconomical.

In addition to the competition we face from competing drugs in general, we also face competition from other companies working to develop novel drugs using technology that competes more directly with our own. Any of these companies may develop its RNAi technology more rapidly and more effectively than us. We may also compete with companies working to develop drugs based on an alternative mechanism of the body to suppress the activity of specific genes, known as antisense. Antisense molecules are strands of nucleic acids, deoxyribonucleic acid (DNA) or ribonucleic acid (RNA), complex biomolecules found in all living cells. Antisense molecules interact with complementary strands of nucleic acids to inhibit expression of specific genes. The development of antisense drugs is more advanced than that of RNAi therapeutics, and antisense technology may become the preferred technology for drugs that inhibit expression of specific genes.

It is difficult and costly to protect our proprietary rights, and we may not be able to ensure their protection.

Our commercial success will depend in part on obtaining and maintaining patent protection and trade secret protection for our product candidates, their use and the methods used to manufacture them, as well as successfully defending these patents against third-party challenges. Our ability to protect our product candidates from unauthorized making, using, selling, offering to sell or importation by third parties is dependent upon the extent to which we have rights under valid and enforceable patents, or have trade secrets that cover these activities.

We have licensed several patents and patent applications relating to RNAi technology. In addition, we have and are seeking patents in the United States, Europe and selected other jurisdictions for our product candidates, delivery methodologies and target genes. However, any patents we obtain or license from third parties may be challenged, invalidated, held unenforceable or circumvented. The existence of a patent will not necessarily protect us from competition or from claims of a third party that our products infringe their issued patents. No consistent policy regarding the breadth of claims allowed in biotechnology patents has emerged to date in the United States. The biotechnology patent situation outside the United States is even more uncertain. Competitors may successfully challenge our owned and licensed patents, produce similar drugs that do not infringe our patents, or produce drugs in countries where we do not have patent protection or that do not respect our patents. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our owned or licensed patents and patent applications. To the extent we rely on third parties for our proprietary rights, we will have limited control over the prosecution, protection and defense of such rights.

The degree of future protection to be afforded by our proprietary rights is uncertain and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of our patents, or for which we are not licensed under our license agreements;
- we or our licensors or collaborators might not have been the first to make the inventions covered by our pending patent applications, or the pending patent applications and issued patents of our licensors;
- we or our licensors or collaborators might not have been the first to file patent applications for these inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- our pending patent applications may not result in issued patents;
- our issued patents and the issued patents of our licensors or collaborators may not provide us with any competitive advantages, or may be held invalid or unenforceable as a result of legal challenges by third parties;
- we may not develop additional proprietary technologies that are patentable; or
- the patents of others may have an adverse effect on our business.

We also may rely on trade secrets to protect our technology, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors, outside scientific collaborators and other advisors may unintentionally or willfully disclose our information to competitors. Enforcing a claim that a third party illegally obtained and is using any of our product candidates is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States are sometimes less willing to protect trade secrets. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how.

Our research and development collaborators may have rights to publish data and other information to which we have rights. In addition, we sometimes engage individuals or entities to conduct research that may be relevant to our business. The ability of these individuals or entities to publish or otherwise publicly disclose data and other information generated during the course of their research is subject to certain contractual limitations. These contractual provisions may be insufficient or inadequate to protect our trade secrets and may impair our patent rights. If we do not apply for patent protection prior to such publication or if we cannot otherwise maintain the confidentiality of our technology and other confidential information, then our ability to receive patent protection or protect our proprietary information may be jeopardized.

We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights.

The cost to us of any litigation or other proceedings relating to intellectual property rights, even if resolved in our favor, could be substantial. Some of our competitors may be better able to sustain the costs of complex patent litigation because they have substantially greater resources. Uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to continue our operations. Should third parties file patent applications, or be issued patents claiming technology also claimed by us in pending applications, we may be required to participate in interference proceedings before the U.S. Patent and Trademark Office to determine priority of invention which could result in substantial costs to us or an adverse decision as to the priority of our inventions. An unfavorable outcome in an interference proceeding could require us to cease using the technology or to license rights from prevailing third parties. There is no guarantee that any prevailing party would offer us a license or that we could acquire any license made available to us on commercially acceptable terms.

Third parties are, and have been, actively seeking patent protection in the RNAi field. We are aware of a number of currently pending patent applications that, if granted, might arguably cover our activities or product candidates, depending on the scope of claims allowed, if any, including patent applications owned by Merck & Co., Inc. In addition, claims could be made that we infringe existing patents which we have concluded do not cover our work in the RNAi field. Furthermore, patent applications and granted patents may exist of which we are unaware that could cover our work in the RNAi field. If any parties successfully claim that our creation or use of proprietary technologies infringes upon their intellectual property rights, we might be forced to pay damages, potentially including treble damages, if we are found to have willfully infringed on such parties' patent rights. In addition to any damages we might have to pay, a court could require us to stop the infringing activity or obtain a license. Any license required under any patent may not be made available on commercially acceptable terms, if at all. In addition, such licenses are likely to be non-exclusive and, therefore, our competitors may have access to the same technology licensed to us. If we fail to obtain a required license and are unable to design around a patent, we may be unable to effectively market any products we successfully develop, which could limit our ability to generate revenues or achieve profitability and possibly prevent us from generating revenue sufficient to sustain our operations. Moreover, we expect that a number of our collaborations will provide that royalties payable to us for licenses to our intellectual property may be offset by amounts paid by our collaborators to third parties who have competing or superior intellectual property positions in the relevant fields, which could result in significant reductions in our revenues from any products developed through collaborations.

If we fail to comply with our obligations under any inbound licenses or related agreements, we could lose license rights that are necessary for developing and protecting our RNAi technology and any related product candidates that we develop.

We have licensed certain patents and patent applications from Silence and Alnylam Pharmaceuticals, Inc. relating to RNAi technology, and from University of Illinois Chicago, or UIC, and Dharmacon that are important for the development of our drug candidates. All licensors have the right to terminate their license agreements with us if we default under them. Maintaining our licenses with Silence, Alnylam, UIC and Dharmacon is critical to our continued development of our product candidates. Loss of one or more of these licenses could jeopardize our intellectual property position.

Our current inbound licenses impose, and any future inbound licenses we enter into are likely to impose, various development, commercialization, funding, royalty, diligence, sublicensing, insurance and other obligations on us. If we breach any of these obligations, the licensor may have the right to terminate the license or render the license non-exclusive, which could result in us being unable to develop, manufacture and sell products that are covered by the licensed technology or enable a competitor to gain access to the licensed technology. Additionally, some of these licenses impose field-of-use restrictions that may limit future growth with regard to new markets or products. Our license under the 2004 collaboration agreement with Silence is limited to products for treating diseases other than cancer. Our licenses from Alnylam relating to p53 and RTP-801 are limited to products for the treatment of specific diseases. In addition, while we cannot currently determine the amount of the royalty obligations we will be required to pay on sales of future products, if any, the amounts may be significant. The amount of our future royalty obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability.

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

In order to protect our proprietary technology and processes, we rely in part on confidentiality agreements with our licensees, 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 parties. 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.

We rely on third parties to conduct our clinical trials. If these third parties do not perform as contractually required or otherwise expected, we may not be able to obtain regulatory approval for or commercialize our product candidates.

We rely on third parties, such as contract research organizations, medical institutions, clinical investigators and contract laboratories, to conduct our clinical trials. We have, in the ordinary course of business, entered into agreements with these third parties. Nonetheless, we are responsible for confirming that each of our clinical trials is conducted in accordance with its general investigational plan and protocol. Moreover, the FDA requires us to comply with regulations and standards, commonly referred to as good clinical practices, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the trial participants are adequately protected. Our reliance on third parties does not relieve us of these responsibilities and requirements. If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if the third parties need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our preclinical development activities or clinical trials may be extended, delayed, suspended or terminated, and we may not be able to obtain regulatory approval for our product candidates.

We do not have manufacturing experience or resources and we must incur significant costs to develop this expertise or rely on third parties to manufacture our product candidates.

We do not have manufacturing experience for our RNAi drug candidates, which requires us to depend on third parties that might not be able to deliver sufficient quantities of product at acceptable quality levels in a timely manner, or at all. In order to develop products, apply for regulatory approvals and commercialize our products, we will need to develop, contract for, or otherwise arrange for the necessary manufacturing capabilities. We may manufacture clinical trial materials ourselves, but more likely would rely on others to manufacture the materials we will require for any clinical trials that we initiate. Only a limited number of manufacturers supply synthetic siRNA. We currently rely on several contract manufacturers, including Avecia, Agilent Technologies, and BioSpring for our supply of synthetic siRNA, and Pyramid Laboratories for the supply of our final material for clinical trials. There are risks inherent in pharmaceutical manufacturing that could affect the ability of our contract manufacturers to meet our delivery time requirements or provide adequate amounts of material to meet our needs. Included in these risks are synthesis and/or purification failures and contamination during the manufacturing process, both of which could result in unusable product and cause delays in our development process. The manufacturing process for any products that we may develop is an element of the FDA approval process and we need to contract with manufacturers who can meet the FDA requirements on an ongoing basis. In addition, if we receive the necessary regulatory approval for any product candidate, we also expect to rely on third parties, including our collaborators, to produce materials required for commercial production. We may experience difficulty in obtaining adequate manufacturing capacity for our needs. If we are unable to obtain or maintain contract manufacturing for these product candidates, or to do so on commercially reasonable terms, we may not be able to successfully develop and commercialize our products.

To the extent that we enter into manufacturing arrangements with third parties, we will depend on these third parties to perform their obligations in a timely manner and consistent with regulatory requirements. The failure of a third-party manufacturer to perform its obligations as expected could adversely affect our business in a number of ways, including:

- we may not be able to initiate or continue clinical trials of products that are under development;
- we may be delayed in submitting applications for regulatory approvals for our products;
- we may lose the cooperation of our collaborators;
- we may be required to cease distribution or recall some or all batches of our products; and
- ultimately, we may not be able to meet commercial demands for our products.

If a third-party manufacturer with whom we contract fails to perform its obligations, we may be forced to manufacture the materials ourselves, for which we may not have the capabilities or resources, or enter into an agreement with a different third-party manufacturer, which we may not be able to do on reasonable terms, if at all. In addition, if we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines. The delays associated with the verification of a new manufacturer or the reverification of an existing manufacturer could negatively affect our ability to develop product candidates or produce approved products in a timely manner or within budget. Furthermore, a manufacturer may possess technology related to the manufacture of our product candidates or approved products that such manufacturer owns independently. This would increase our reliance on such manufacturer or require us to obtain a license from such manufacturer in order to have another third-party manufacture our products.

The loss of members of our management team could substantially disrupt our business operations.

Our success depends to a significant degree upon the continued contributions of our management team, and particularly Daniel Zurr, Ph.D., our founder, President and Chief Executive Officer. The loss of Dr. Zurr, whether from retirement, competing offers, or other causes, could prevent us from executing our business strategy, cause us to lose a strategic partner or otherwise materially affect our operations. Dr. Zurr, as well as the rest of our management team and key employees, are at-will employees, and we do not maintain any key-person life insurance policies.

We rely on highly skilled personnel and if we are unable to retain or motivate key personnel or hire qualified personnel, we may not be able to maintain our operations or grow effectively.

Our performance is largely dependent on the talents and efforts of highly skilled individuals. Our future success depends on our continuing ability to identify, hire, develop, motivate and retain qualified management, clinical and scientific personnel for all areas of our organization. In this regard, in anticipation of increased development and commercialization activities, we are currently planning to increase the total number of our full time employees significantly over the next couple of years. As a result, we expect personnel costs to increase in the future. The increase in costs will depend on the timing and compensation of the new hires. If we are unable to hire and train a sufficient number of qualified employees for any reason, we may not be able to implement our development and commercialization activities or grow effectively. We have in the past maintained a rigorous, highly selective and time-consuming hiring process. We believe that our approach to hiring has significantly contributed to our success to date. However, our highly selective hiring process has made it more difficult for us to hire a sufficient number of qualified employees and, as we grow, our hiring process may prevent us from hiring the personnel we need in a timely manner. If we do not succeed in attracting qualified personnel and retaining and motivating existing personnel, our existing operations may suffer and we may be unable to grow effectively.

We lack marketing and commercialization experience for biopharmaceutical products and we may have to rely on third parties for these capabilities.

We currently do not have sales, marketing or distribution capabilities. We intend to hire sales and marketing personnel to enable us to commercialize some of our product candidates. If we are unsuccessful in hiring and retaining sales and marketing personnel with appropriate technical and sales expertise or in developing an adequate distribution capability to support them, our ability to generate product revenues will be adversely affected. To the extent we cannot or choose not to use internal resources for the marketing, sales or distribution of any potential products in the United States or elsewhere, we intend to rely on collaboration partners or licensees. We may not be able to establish or maintain such relationships. To the extent that we depend on collaboration partners or other third parties for marketing, sales and distribution, any revenues we receive will depend upon their efforts. Such efforts may not be successful, and we will not be able to control the amount and timing of resources that our licensees or collaborators or other third parties devote to our products.

If any products we develop become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, our business could be harmed.

Our ability to commercialize any product candidate profitably will depend in part on the extent to which reimbursement for such product candidate and related treatments will be available from government health administration authorities, private health insurers or private payors, and other organizations in the United States and internationally. Even if we succeed in bringing one or more product candidates to market, these products may not be considered cost-effective, and the amount reimbursed for any product may be insufficient to allow us to sell it profitably. Because our product candidates are in the early stages of development, we are unable at this time to determine their cost-effectiveness and the level or method of reimbursement. There may be significant delays in obtaining coverage for newly approved products, and coverage may be more limited than the purposes for which the product candidate is approved by the FDA or foreign regulatory agencies. Moreover, eligibility for coverage does not mean that any product will be reimbursed in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Increasingly, the third-party payors who reimburse patients, such as government and private payors, are requiring that companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. If the reimbursement we are able to obtain for any product we develop is inadequate in light of our development and other costs, our business could be harmed.

We face potential product liability exposure, and if successful claims are brought against us, we may incur substantial liability for a product candidate and may have to limit its commercialization.

The use of our product candidates in clinical trials and the sale of any products for which we obtain marketing approval expose us to the risk of product liability claims. Product liability claims might be brought against us by consumers, health care providers, pharmaceutical companies or others selling our products. If we

cannot successfully defend ourselves against these claims, we will incur substantial liabilities. Regardless of merit or eventual outcome, product liability claims may result in:

- decreased demand for our product candidates;
- impairment of our business reputation;
- withdrawal of clinical trial participants;
- costs of related litigation;
- substantial monetary awards to patients or other claimants;
- loss of revenues; and
- the inability to commercialize our product candidates.

Although we currently have product liability insurance coverage for our global clinical trials for expenses or losses up to an aggregate limit of $10 million, our insurers may not reimburse us, or our insurance coverage may not be sufficient to reimburse us, for any or all expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. We intend to expand our insurance coverage to include the sale of commercial products if we obtain marketing approval for our product candidates in development, but we may be unable to obtain commercially reasonable product liability insurance for any products approved for marketing. On occasion, large judgments have been awarded in class action lawsuits based on products that had unanticipated side effects. A successful product liability claim or series of claims brought against us could cause our stock price to fall and, if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

If we or our licensees, collaborators, manufacturers or service providers fail to comply with applicable laws and regulations, we or they could be subject to enforcement actions, which could affect our ability to market and sell our products and may harm our reputation.

If we or our licensees, collaborators, manufacturers or service providers fail to comply with applicable federal, state or foreign laws or regulations, we could be subject to enforcement actions, which could affect our ability to develop, market and sell our products under development successfully and could harm our reputation and lead to reduced acceptance of our products by the market. These enforcement actions include:

- warning letters;
- recalls or public notification or medical product safety alerts;
- restrictions on, or prohibitions against, marketing our products;
- restrictions on importation of our products;
- suspension of review or refusal to approve pending applications;
- suspension or withdrawal of product approvals;
- product seizures;
- injunctions; and
- civil and criminal penalties and fines.

We are subject to foreign exchange risk.

We expect to derive substantially all of our revenues in U.S. dollars. However, the substantial majority of our Israeli subsidiary's expenses are denominated in New Israeli Shekels and we anticipate that a material portion of our Israeli subsidiary's expenses will continue to be denominated in New Israeli Shekels. We do not engage in foreign currency hedging arrangements. Accordingly, fluctuations in exchange rates between the U.S. dollar and New Israeli Shekels may adversely affect our results of operations.

We may incur significant costs complying with environmental laws and regulations, and failure to comply with these laws and regulations could expose us to significant liabilities.

We use hazardous chemicals and radioactive and biological materials in our business and are subject to a variety of federal, state and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials. Although we believe our safety procedures for handling and disposing of these materials and waste products comply with these laws and regulations, we cannot eliminate the risk of accidental injury or contamination from the use, storage, handling or disposal of hazardous materials. In the event of contamination or injury, we could be held liable for any resulting damages. We are uninsured for third-party contamination injury.

We have significant operations in Israel, which may be adversely affected by acts of terrorism or major hostilities.

Our primary research and development facilities are located in Ness Ziona, Israel. We are subject to a number of risks and challenges that specifically relate to these operations. Since the establishment of the State of Israel in 1948, a number of armed conflicts have occurred between Israel and its Arab neighbors. Any hostilities involving Israel could adversely affect our operations. In addition, our operations could be materially and adversely affected by acts of terrorism or major hostilities in the Middle East. Any such effects may not be covered by insurance. These 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.

We are subject to the risk of natural disasters, including earthquakes.

We have facilities located in the San Francisco Bay Area, Boulder, Colorado, and Israel. The San Francisco Bay area is in close proximity to known earthquake fault zones. If a fire, earthquake, flood or other natural disaster disrupts our research or development efforts, our business, financial condition and operating results could be materially adversely affected. Although we maintain personal property and general business interruption coverage, we do not maintain earthquake or flood insurance coverage for personal property or resulting business interruption.

Risks Related to the Units, Our Common Stock and this Offering

We are selling this offering without an underwriter and may be unable to sell any units. Unless we are successful in selling the units and receiving the proceeds from this offering, we may have to seek alternative financing to implement our business plans.

This offering is not-underwritten on a firm commitment basis. In the event we do not sell at least units the offering may be cancelled. In such event we may have to seek alternative financing to implement our business plans.

The market price of our common stock may be highly volatile, and you may not be able to resell your shares at or above the price you paid for them in this offering.

We have applied to list our common stock on the Tel Aviv Stock Exchange. We have not, however, applied to list or have our stock quoted on any stock exchange or quotation system in the United States. Prior to this offering, there has not been a public market for our common stock. We cannot assure you that an active trading market for our common stock will develop in Israel following this offering, and we do not expect that any active public trading market for our common stock will develop in the United States.

You may not be able to sell your shares quickly or at the market price if trading in our common stock is not active.

The trading price of our common stock on the Tel Aviv Stock Exchange is likely to be highly volatile and could be subject to wide fluctuations in price in response to various factors, many of which are beyond our control, including:

- new products or services introduced or announced by us or our licensees or collaborators, or our competitors, and the timing of these introductions or announcements;

- the issuance of patents to competitors;
- actual or anticipated results from and any delays in our clinical trials;
- actual or anticipated regulatory approvals or our product candidates or competing products;
- actions taken by regulatory agencies with respect to our product candidates, clinical trials, manufacturing process or sales and marketing activities;
- changes in laws or regulations applicable to our products, including but not limited to clinical trial requirements for approvals;
- the success of our development efforts and clinical trials;
- the success of our efforts to discover, acquire or in-license additional products or product candidates;
- developments concerning our licensing and collaboration arrangements, including but not limited to those with our sources of manufacturing supply;
- actual or anticipated variations in our quarterly operating results;
- announcements of technological innovations by us, our licensees or collaborators, or our competitors;
- actual or anticipated changes in earnings estimates or recommendations by securities analysts;
- conditions or trends in the biotechnology and biopharmaceutical industries;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- general economic and market conditions and other factors that may be unrelated to our operating performance or the operating performance of our competitors;
- changes in the market valuations of similar companies;
- sales of common stock or other securities by us or our shareholders in the future;
- additions or departures of key scientific or management personnel;
- developments relating to proprietary rights held by us or our competitors;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies; and
- trading volume of our common stock.

In addition, the stock market in general and the market for biotechnology and biopharmaceutical companies in particular have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market, securities class-action litigation has often been instituted against companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management's attention and resources, which could materially and adversely affect our business and financial condition.

The authorized entities will not be bound by suitability protections for customers purchasing the units akin to FINRA Rule 2310.

The commercial banks or members of TASE in Israel that will be authorized to receive bids from customers wishing to purchase units in this offering are not member firms or registered representatives of the Financial Industry Regulatory Authority, Inc. ("FINRA"). As such, the authorized entities will not be subject to FINRA Rule 2310 (Recommendations to Customers (Suitability)) that requires that registered representatives take into account several factors such as the customer's financial status before recommending investments to individual investors (non-institutional). Notwithstanding the foregoing, investment advisors in

Israel are subject to the Israeli Law for the Regulation of Investment Advice, Investment Marketing and Investment Management, 1995 that contains, among others, several provisions aimed at protecting the interest of investors, including a requirement to accommodate the service to the needs and instructions of the client.

Following the offering, we shall be subject to certain provisions of Israel Securities Law — 1968, which deal mainly with disclosure issues, and to certain provisions of Israel Companies Law — 1999, which deal mainly with corporate governance issues. Both provisions differ from US securities laws and the default provisions generally applicable to California corporations, respectively. Certain of these provisions may be unenforceable and stockholder rights may be adversely affected.

As a result of the offering of securities in Israel, we are subject to certain provisions of the Israeli Securities Law — 1968. Pursuant to Section 39A of the Israel Securities Law — 1968, rules and regulations of the Israeli Companies Law — 1999 listed in the Fourth Schedule to Israel Securities Law apply to issuers incorporated in jurisdictions outside Israel which offer securities to the public in Israel.

In addition, pursuant to Section 39A of the Israeli Securities Law, we are subject to a number of other provisions of the Israeli Companies Law, including provisions applicable to:

- Our Chairman of the Board of Directors and our Chief Executive Officer (Sections 95 and 121(c) of the Israeli Companies Law)
- proxy statements required under the Israeli Companies Law (Sections 87 and 89 of the Israeli Companies Law);
- our Audit Committee (Sections 114 to 117 of the Israeli Companies Law), our Internal Auditor (Sections 146 to 153 of the Israeli Companies Law);
- derivative claims and class action lawsuits (Sections 194 to 218 of the Israeli Companies Law);
- duties of officers (Sections 252 to 256 of the Israeli Companies Law);
- transactions with controlling stockholders (Sections 270(d) and 275 to 282 of the Israeli Companies Law and all regulations promulgated thereunder);
- The appointment of external directors (Sections 239 to 249A of the Israeli Companies Law);
- Tender offers (sections 328 to 340 and 342 of the Israeli Companies Law) and Israel Securities Regulations (Purchase Offers), 2000,

The foregoing provisions of Israeli law are only applicable to the extent permitted by California law. In the event of a conflict between these provisions and California law, California law will prevail.

Our largest shareholder and management beneficially own a significant percentage of our stock and will be able to exercise significant influence over matters subject to shareholder approval.

As of August 15, 2010, our executive officers, directors and largest shareholder, together with their respective affiliates, beneficially owned approximately 76.1% of our voting stock, including shares subject to outstanding options and warrants, and we expect that upon completion of this offering, that same group will continue to beneficially own at least % of our outstanding voting stock. Accordingly, even after this offering, these shareholders will be able to exert a significant degree of influence over our management and affairs and over matters requiring shareholder approval, including the election of our board of directors and approval of significant corporate transactions. This concentration of ownership could have the effect of delaying or preventing a change in our control or otherwise discouraging a potential acquirer from attempting to obtain control of us, which in turn could have a material and adverse effect on the fair market value of our common stock.

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

As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002, as well as rules implemented by the Securities and Exchange Commission and Israel Securities Authority, imposes various requirements on public

companies, including requiring the establishment and maintenance of effective disclosure and financial controls and changes in corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these new compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect director and officer liability insurance to be expensive, and we may be required to incur substantial costs to maintain the same or similar coverage in the future.

The Sarbanes-Oxley Act of 2002 requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular we must perform system and process evaluation and testing of our internal control over financial reporting to allow management and our independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. As a result of our compliance with Section 404, we will incur substantial accounting expense and expend significant management efforts and we will need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge to ensure such compliance. As a reporting corporation under Israel Securities Law, we will also be required to file periodic and immediate reports according to Israel Securities Law and regulations, resulting in significant additional legal, accounting and other expenses. We expect these expenses will be increased by our need to reconcile the requirements of U.S. and Israeli laws, and the fact that Israel Securities Law and regulations are designed mainly for companies incorporated under the Israel Companies Act, as opposed to under U.S. law, as we are.

Future sales of our common stock in the public market could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market after this offering, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. After this offering, we will have up to shares of common stock outstanding.

Under the rules of the Tel Aviv stock exchange, certain of our stockholders will be restricted from selling our securities for between three and 18 months following this offering. These restrictions, together with additional restrictions under U.S. securities laws are described in “Shares Eligible for Future Sale,” limit the number of shares of common stock that may be sold immediately following this offering.

All of the shares of common stock and warrants sold in this offering will be freely tradable without restrictions or further registration under the Securities Act of 1933, as amended, except for any shares purchased by our affiliates as defined in Rule 144 under the Securities Act of 1933, as amended. 21,084,630 shares of common stock outstanding as of August 15, 2010, plus an additional 2,543,873 shares issuable upon the exercise of outstanding options and 300,000 shares that may be issued upon the exercise of warrants that will terminate if not exercised prior to the completion of this offering, will be available for sale, subject to volume limitations under Rule 144 under the Securities Act of 1933, as amended and the restrictions imposed by the Tel Aviv Stock Exchange.

After this offering, the holders of approximately 17,696,100 shares of common stock based on shares outstanding as of August 15, 2010, including 300,000 shares currently underlying outstanding warrants that will expire if not exercised prior to this offering, will be entitled to rights with respect to registration of such shares under the Securities Act of 1933, as amended. If such holders, by exercising their registration rights, cause a large number of securities to be registered and sold in the public market, these sales could have an adverse effect on the market price for our common stock. If we were to initiate a registration and include shares held by these holders pursuant to the exercise of their registration rights, these sales may impair our ability to raise capital.

Anti-takeover provisions in our charter documents and under California law could make an acquisition of us, which may be beneficial to our shareholders, more difficult and may prevent attempts by our shareholders to replace or remove our current management.

Provisions in our articles of incorporation and our bylaws may delay or prevent an acquisition of us that would be beneficial to shareholders or a change in our management. In addition, these provisions may frustrate or prevent any attempts by our shareholders to replace or remove our current management by making

it more difficult for shareholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our shareholders to replace current members of our management team. These provisions include:

- a prohibition on actions by our shareholders by written consent;
- advance notice requirements for election to our board of directors and for proposing matters that can be acted upon at shareholder meetings;
- elimination of cumulative voting in the election of directors; and
- the ability of our board of directors to amend our bylaws without shareholder approval.

In addition, as a California corporation, we are subject to the provisions of Section 1203 of the California Corporations Code, which requires us to provide a fairness opinion to our shareholders in connection with their consideration of any proposed "interested party" reorganization transaction. These provisions could make it more difficult for a third party to acquire a majority of our outstanding voting stock by discouraging a hostile bid, or delaying, preventing or deterring a merger, acquisition or tender offer in which our shareholders could receive a premium for their shares, or effect a proxy contest for control of Quark or other changes in our management, even if the proposed acquisition or change in management could be considered beneficial by some shareholders.

If you purchase shares of common stock sold in this offering, you will experience immediate dilution. You will experience further dilution if we issue shares in future financing transactions or upon exercise of options or warrants.

If you purchase shares of common stock in this offering, you will experience immediate dilution of $ per share because the price that you pay will be substantially greater than the net tangible book value per share of the shares you acquire. This dilution is due in large part to the fact that most of our earlier investors paid substantially less than the initial public offering price when they purchased their shares. If we issue additional common stock or issue securities convertible into or exchangeable or exercisable for common stock, our shareholders will experience additional dilution. In addition, if we raise additional funds through the sale of equity securities, new investors could have rights superior to our existing shareholders.

Because our management will have broad discretion over the use of the net proceeds from this offering, you may not agree with how we use them and the proceeds may not be invested successfully.

We intend to use the net proceeds from this offering for general corporate purposes, and therefore, our management will have broad discretion as to the use of the offering proceeds. Accordingly, you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the proceeds will be invested in a way that does not yield a favorable, or any, return for our company.

We have not declared any dividends on our common stock to date, and we have no intention of declaring dividends in the foreseeable future.

The decision to pay cash dividends on our common stock rests with our board of directors and will depend on our earnings, unencumbered cash, capital requirements and financial condition. We do not anticipate declaring any dividends in the foreseeable future, as we intend to use any excess cash to fund our operations. Investors in our common stock should not expect to receive dividend income on their investment, and investors will be dependent on the appreciation of our common stock to earn a return on their investment. Additionally, our ability to pay future dividends may be restricted by the terms of any debt financing and tax considerations.

Risks Related to the Auction Process for Our Offering

The auction process may result in a phenomenon known as the "winner's curse," and, as a result, investors may experience significant losses.

The auction process may result in a phenomenon known as the "winner's curse." At the conclusion of the auction, bidders that receive allocations of units in this offering (successful bidders) may infer that there is little incremental demand for our shares above or equal to the public trading price. As a result, successful bidders may conclude that they paid too much for our units and could seek to immediately sell their shares to limit their losses should our stock price decline. In this situation, other investors that did not submit successful bids may wait for this selling to be completed, resulting in reduced demand for our common stock in the public market and a significant decline in our stock price. Therefore, we caution investors that submitting successful bids and receiving allocations may be followed by a significant decline in the value of their investment in our common stock shortly after our offering.

Successful bidders may receive the full number of units subject to their bids, so potential investors should not make bids for more units than they are prepared to purchase.

Successful bidders may be allocated all or almost all of the units that they bid for in the auction. Therefore, we caution investors against submitting a bid that does not accurately represent the number of units that they are willing and prepared to purchase.

If research analysts publish or establish target prices for our common stock that are below the offering price for our units or the then current trading market price of our shares, the price of our shares of common stock may fall.

Although the offering price of our units may have little or no relationship to the price determined using traditional valuation methods, research analysts may rely on these methods to establish target prices for our common stock. If research analysts publish target prices for our common stock that are below the offering price of our units or the then current trading market price of our shares, our stock price may decline.

The mechanics of our bid process make it difficult for persons not having an account with an authorized entity at the time of the bid process to place a bid for our units.

We are conducting our bid process in compliance with the rules of the TASE and the Israeli Securities Authority. As a result of the manner in which we are conducting the offering and while the bidding process is open to everyone, bids must be submitted through authorized entities, or TASE members. For description of the offering mechanism, see "Plan of Distribution." The need to submit a bid through an authorized entity makes it potentially difficult and costly for persons not having an account with an authorized entity to bid on our units.

The amount of proceeds from this offering is dependent upon the outcome of the auction process.

The amounts set forth in the "Use of Proceeds" section indicate our proposed use of proceeds from this offering. Due to the nature of the auction process, the outcome of the auction will determine the proceeds of the offering and there is no assurance that we will be able to sell any units in this offering. The offering will not be completed, and bids submitted will be cancelled, if the minimal amount indicated in the "Use of Proceeds" section shall not be achieved as a result of the offering.

FORWARD-LOOKING STATEMENTS

Some of the statements under the sections of this prospectus entitled "Prospectus Summary," "Risk Factors," "Use of Proceeds," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business" and elsewhere in this prospectus contain forward-looking statements. In some cases, you can identify forward-looking statements by the following words: "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "ongoing," "plan," "potential," "predict," "project," "should," "will," "would," or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. Many important factors affect our ability to achieve our objectives, including:

- our ability to continue to develop our product candidates;
- the successful and timely completion of clinical trials;
- our ability to maintain and form relationships with our licensees and collaborators;
- our ability to obtain and maintain regulatory clearance or approval of our products;
- the impact of competition on our product candidates; and
- our ability to obtain and maintain intellectual property protection for our products.

In addition, you should refer to the section of this prospectus entitled "Risk Factors" for a discussion of other important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all.

USE OF PROCEEDS

We estimate that the net proceeds from the sale of units comprised of ___ shares of our common stock and ___ warrants in this offering will be approximately $ million, based upon an assumed initial public offering price of $ per unit, after deducting estimated distribution commissions and offering expenses payable by us, excluding proceeds received from the exercise of the warrants. Each $1.00 increase (decrease) in the assumed initial public offering price of $ per unit, would increase (decrease) net proceeds to us from this offering by approximately $ million, assuming the number of units offered by us, as set forth on the cover page of this prospectus, remains the same. We may also increase or decrease the number of units we are offering. Each increase (decrease) of one million units in the number of units offered by us would increase (decrease) the net proceeds to us from this offering by approximately $ million, assuming that the assumed initial public offering price remains the same, and after deducting the estimated discounts and commissions and offering expenses payable by us, excluding proceeds received from the exercise of the warrants. We do not expect that a change in the offering price or the number of units by these amounts would have a material effect on our uses of the net proceeds from this offering, although it may impact the amount of time prior to which we will need to seek additional capital. We will not receive any proceeds from the exercise of the warrants unless and to the extent that the warrants are exercised. We currently expect to use our net proceeds from this offering to conduct three Phase II clinical trials of our current product candidates QPI-1002 and QPI-1007, a Phase I clinical trial of QPI-1007 and development of our product candidates in preclinical development, all subject to the receipt of necessary regulatory approvals and achievement of other milestones.

We may also seek to obtain debt or other non-equity financing to cover a portion of the costs to complete development and commercialize any or all of our drug candidates, to fund development of our other preclinical and early-stage product candidates and/or for the acquisition or in-licensing of, or investment in, products, product candidates, or companies that complement our business. However, we have no current understandings, commitments or agreements with respect to any such potential financing.

The expected use of the net proceeds of this offering represents our current intentions based upon our present plans and business conditions. We anticipate that the net proceeds we receive in this offering, together with our existing cash resources and anticipated research and development funding and milestone payments from existing collaborators, will be sufficient to fund our operations through the first half of 2013 and, subject to the receipt of necessary regulatory approvals and achievement of other necessary milestones, to complete Phase II clinical trials of QPI-1002 and to complete Phase I clinical trial and prepare and conduct Phase II clinical trial of our product candidate QPI-1007. The amounts we actually expend in these areas will depend upon a number of factors, including the success of research and product development efforts, FDA approval of our products, cash generated from future operations and actual expenses to operate our business. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering. Accordingly, our management will have broad discretion in the application of the net proceeds, and investors will be relying on the judgment of our management regarding the application of the proceeds of this offering.

The amount and timing of our expenditures will depend on several factors, including the progress of our research and development efforts and the amount of cash used by our operations. Pending their uses, we plan to invest the net proceeds of this offering in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable future. Any future determination related to dividend policy will be made at the discretion of our board of directors.

CAPITALIZATION

The following table sets forth our capitalization as of June 30, 2010:

- on an actual basis;
- on an as adjusted basis to reflect:
- the conversion of all of our outstanding shares of preferred stock into 17,696,100 shares of common stock immediately prior to the closing of this offering; and
- the sale of units, with each unit comprised of shares of common stock and warrants, in this offering at an assumed initial offering price of $ per unit, after deducting underwriting discounts and commissions and estimated offering expenses.

You should read the information in this table together with our financial statements and accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this prospectus.

	As of June 30, 2010 (Unaudited)	
	Actual	As adjusted
	(in thousands, except share and per share data)	
Series H Redeemable Convertible Preferred stock $0.001 par value:		
7,700,000 shares authorized at June 30, 2010, 7,400,000 issued and outstanding at June 30, 2010; Aggregate liquidation preference of $44,400 at June 30, 2010; No shares authorized or issued and outstanding proforma	$ 37,000	$ —
Stockholders' equity:		
Common stock $0.001 par value:		
Authorized: 74,800,000 shares at June 30, 2010; Issued and outstanding: 3,388,530 shares at June 30, 2010; shares authorized and shares, issued and outstanding proforma	3	
Series A – G Convertible Preferred stock $0.001 par value:		
Authorized: 25,882,410 shares at June 30, 2010; Issued and outstanding: 25,879,611 shares issued at June 30, 2010; Aggregate liquidation preference of $86,443 at June 30, 2010; shares authorized and none issued and outstanding proforma	26	
Additional paid in capital	76,977	
Accumulated deficit	(104,355)	
Total stockholders' equity	(27,349)	
Total capitalization	(27,349)	$

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per unit, would increase (decrease) each of additional paid-in capital, total shareholders' equity and total capitalization by approximately $ million, assuming that the number of units offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions and offering expenses payable by us, excluding proceeds received from the exercise of the warrants. We may also increase or decrease the number of units we are offering. Each increase (decrease) of one million units in the number of units offered by us would increase (decrease) each of additional paid-in capital, total shareholders' equity and total capitalization by approximately $ million, assuming that the assumed initial public offering price remains the same, and after deducting the estimated distribution commissions and estimated offering expenses payable by us, excluding proceeds received from the exercise of the warrants. The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

The outstanding share information in the table above is as of June 30, 2010 and excludes:

- warrants exercisable for shares of our common stock to be sold in this offering;
- 300,000 shares of common stock issuable upon exercise of outstanding Series H Redeemable Convertible Preferred stock warrants and conversion of the resulting shares;
- 2,543,873 shares of common stock issuable upon the exercise of outstanding options with a weighted average exercise price of $1.69 per share; and
- 727,149 shares of common stock reserved for future issuance under our 1997 Stock Plan.

DILUTION

If you invest in our units in this offering, your ownership interest in our common stock will be diluted to the extent of the difference between the initial public offering price per share and the proforma net tangible book value per share of our common stock after this offering. Net tangible book value per share is determined by dividing the number of outstanding shares of our common stock into our total tangible assets (total assets less intangible assets) less total liabilities. As of June 30, 2010, we had a historical net tangible book value of our common stock of $9.7 million, or approximately $2.86 per share, not taking into account the conversion of our outstanding convertible preferred stock. The proforma net tangible book value of our common stock as of June 30, 2010 was approximately $9.7 million, or approximately 0.46 per share, based on the number of shares outstanding as of June 30, 2010, after giving effect to the conversion of all outstanding convertible preferred stock into shares of common stock prior to completion of this offering.

Investors participating in this offering will incur immediate, substantial dilution. After giving effect to the sale of units offered in this offering at an assumed initial public offering price of $ per unit, after deducting estimated distribution commissions and offering expenses payable by us, our pro forma as adjusted net tangible book value as of June 30, 2010, would have been approximately $ million, or approximately $ per share of common stock, excluding proceeds received from the exercise of the warrants. This represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to existing shareholders, and an immediate dilution of $ per share to investors participating in this offering. The following table illustrates this per share dilution:

Assumed initial public offering price per unit	
Historical net tangible book value per share as of June 30, 2010	
Pro forma decrease in net tangible book value per share attributable to conversion of convertible preferred stock	
Pro forma net tangible book value per share before this offering	
Pro forma increase in net tangible book value per share attributable to investors participating in this offering	
Pro forma as adjusted net tangible book value per share after this offering	
Pro forma dilution per share to investors participating in this offering	

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per unit, with each shares of common stock comprising the units to be offered at a price between $___ and $___ per share, and each warrant comprising the units to be offered at a price between $____ and $____, would increase (decrease) our pro forma as adjusted net tangible book value by approximately $ million, or approximately $ per share, and the pro forma dilution per share to investors in this offering would be approximately $ per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, excluding proceeds received from the exercise of the warrants. We may also increase or decrease the number of shares we are offering. An increase of one million units in the number of units offered by us would increase our pro forma as adjusted net tangible book value by approximately $ million, or $ per share, and the pro forma dilution per share to investors in this offering would be $ per share, assuming that the assumed initial public offering price remains the same, and after deducting the estimated distribution commissions and estimated offering expenses payable by us, excluding proceeds received from the exercise of the warrants. Similarly, a decrease of one million units in the number of units offered by us would decrease our pro forma as adjusted net tangible book value by approximately $ million, or $ per share, and the pro forma dilution per share to investors in this offering would be $ per share, assuming that the assumed initial public offering price remains the same, and after deducting the estimated distribution and commissions and offering expenses payable by us, excluding proceeds received from the exercise of the warrants. The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

The following table summarizes, on a pro forma basis as of June 30, 2010, the differences between the number of shares of common stock purchased from us, the total consideration and the weighted average price per share paid by existing shareholders and by investors participating in this offering at an assumed initial public offering price of $ per unit, and before deducting estimated distribution commissions and offering expenses payable by us:

	Total consideration				
	Number	Percent	Amount	Percent	Weighted average price per share
			(in thousands)		
Existing shareholders before this offering					
Investors participating in this offering					
Total					

The above discussion and tables are as of June 30, 2010 and exclude:

- 300,000 shares of common stock issuable upon exercise of outstanding Series H Redeemable Convertible Preferred stock warrants, with an exercise price of $5.00 per share, and conversion of the resulting shares;
- 2,543,873 shares of common stock issuable upon the exercise of outstanding options with a weighted average exercise price of $1.16 per share; and
- 727,149 shares of common stock reserved for future issuance under our 2007 Equity Incentive Plan.

The following table summarizes, on a pro forma basis as of June 30, 2010, after giving effect to the exercise of all stock options and warrants outstanding as of June 30, 2010, the differences between the number of shares of common stock purchased from us, the total consideration and the weighted average price per share paid by existing shareholders and by investors participating in this offering at an assumed initial public offering price of $ per share, before deducting estimated distribution commissions and offering expenses payable by us:

	Total consideration				
	Number	Percent	Amount	Percent	Weighted average price per share
			(in thousands)		
Existing shareholders before this offering					
Investors participating in this offering					
Total					

The number of shares of common stock outstanding in the table above is based on the pro forma number of shares outstanding as of June 30, 2010.

Effective upon the closing of this offering, an aggregate of shares of our common stock will be reserved for future issuance under our 2007 Equity Incentive Plan and 2010 Employee Stock Purchase Plan. To the extent that any options or warrants are exercised or new options or shares are issued under our benefit plans or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering.

SELECTED FINANCIAL DATA

The following selected financial data should be read together with our financial statements and accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this prospectus.

We derived the statements of operations data for the years ended December 31, 2007, 2008 and 2009 and the balance sheet data as of December 31, 2008 and 2009 from our audited financial statements appearing elsewhere in this prospectus. The statement of operations data for the years ended December 31, 2005 and 2006 and the balance sheet data as of December 31, 2005, 2006 and 2007 are derived from our audited financial statements, which are not included in this prospectus.

The following financial data for the six months ended June 30, 2009 and 2010, and as of June 30, 2010 have been derived from our unaudited financial statements which are included elsewhere in this prospectus. Our historical results are not necessarily indicative of our future results and results for the six months ended June 30, 2010 are not necessarily indicative of results to be expected for the full year.

	Years ended December 31,					Six months ended June 30,	
	2005	2006	2007	2008	2009	2009	2010
	(in thousands, except share and per share data)						
	(audited)					(unaudited)	
Statements of Operations Data:							
Revenues	$ 3,438	$ 4,252	$ 27,878	$ 17,276	$ 2,655	$ 1,452	$ 1,250
Cost of development services	—	—	—	1,719	1,712	936	609
Gross profit	3,438	4,252	27,878	15,557	943	516	641
Operating costs and expenses:							
Research and development	9,049	18,881	20,774	18,726	15,744	9,036	7,783
General and administrative	2,224	2,986	7,055	5,018	5,087	2,618	2,908
Total operating costs and expenses	11,273	21,867	27,829	23,744	20,831	11,654	10,691
Operating income (loss)	(7,835)	(17,615)	49	(8,187)	(19,888)	(11,138)	(10,050)
Financial income (expenses), net	377	656	940	722	87	57	(141)
Income (loss) before income taxes	(7,458)	(16,959)	989	(7,465)	(19,801)	(11,081)	(10,191)
Income taxes	—	—	—	(1,667)	160	(103)	(155)
Net income (loss)	(7,458)	(16,959)	989	(9,132)	(19,641)	(11,184)	(10,346)
Changes of Redemption Value of Series F and H Preferred Stock	(118)	638	(336)	—	—	—	(1,368)
Deemed dividend as a result of warrants modification	—	—	(117)	—	—	—	—
Income attributable to preferred shareholders	—	—	536	—	—	—	—
Net income (loss) to common shareholders	$ (7,576)	$ (16,321)	—	(9,132)	(19,641)	(11,184)	(11,714)
Net income (loss) per share of common stock:							
Basic and diluted net loss per share	$ (2.91)	$ (6.21)	—	$ (2.76)	$ (5.80)	$ (3.30)	$ (3.46)
Weighted average number of shares used in computing basic and diluted net loss per share	2,599,781	2,628,784	2,970,351	3,307,871	3,388,119	3,387,514	3,388,530
Proforma net loss per share of common stock:							
Basic and diluted net loss per share pro forma (unaudited)					(1.03)		(0.53)
Weighted average number of shares used in computing basic and diluted net loss per share pro forma (unaudited)					19,084,219		19,573,519

	As of December 31,					June 30, 2010
	2005	2006	2007	2008	2009	
			(in thousands)			
	(audited)					(unaudited)
Balance Sheet Data:						
Cash and cash equivalents	$ 18,326	$ 19,842	$ 12,234	$ 32,734	$ 12,842	$ 12,425
Working capital	15,537	4,637	8,611	27,412	8,792	9,265
Total assets	21,430	22,892	16,105	36,374	15,690	15,630
Deferred revenues	53	11,677	698	16	81	5
Redeemable convertible preferred stock	874	236	0	27,000	27,000	37,000
Total shareholders' equity (deficiency)	17,185	5,410	9,391	1,576	(17,132)	(27,349)

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

The following discussion and analysis of our financial condition and results of operations should be read together with our financial statements and related notes appearing elsewhere in this prospectus. This discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. You should review the "Risk Factors" section of this prospectus for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements described in the following discussion and analysis.

Overview

We are a clinical-stage pharmaceutical company engaged in discovering and developing novel RNA interference or RNAi-based therapeutics. We have a fully integrated drug development platform that spans therapeutic target identification based on our proprietary gene discovery science and technology, to clinical drug development. We initially focus on RNAi-based therapeutics for the treatment of diseases associated with oxidative stress and ischemic injury. We believe that our insight into the molecular mechanisms underlying these diseases, combined with our ability to design, chemically modify and successfully deliver synthetic small-interfering RNA, or siRNA, to specific organs in the body, enables us to rapidly develop drug candidates, often directed against the same target across multiple therapeutic areas. We have three product candidates in clinical development in five different indications: PF 655 (previously RTP801i-14) for the treatment of diabetic macular edema or DME and for wet age-related macular degeneration, or wet AMD; QPI-1002 (previously AKIi-5) for the prevention of acute kidney injury, or AKI (known also as acute renal failure or ARF) and for treatment of delayed graft function or DGF in kidney transplant patients; and QPI 1007 for ocular neuroprotection. We have licensed PF-655 to Pfizer on an exclusive worldwide basis and we granted an option for an exclusive license to QPI-1002 to Novartis. We have a broad pipeline based on our internally developed and chemically modified siRNA structures, protected by intellectual property rights. Several of our product candidates are based on novel targets and therapeutic concepts discovered using our BiFAR target gene discovery platform. We believe that our platform technologies, siRNA capabilities and intellectual property combined with proven expertise of our regulatory, medical, preclinical and clinical development group will enable us to continue to advance new product candidates into clinical development

We have incurred significant net losses since our inception in December 1993. From inception through June 30, 2010, we have funded our operations primarily through gross proceed $120 million from the sale of equity securities and $126 million pursuant to our license and collaboration agreements with pharmaceutical companies. Through 2005, a substantial portion of our revenues were from our BiFAR gene discovery collaboration agreements with several pharmaceutical companies. In connection with the expiration of research funding under some of those agreements, we ceased certain of our product development efforts. In September 2006, we licensed our drug candidates that inhibit RTP-801 to Pfizer. In June 2010 we entered into a collaboration and license agreement with Nitto Denko pursuant to which Nitto Denko will fund certain of our research program efforts. In August 2010 we granted an option to Novartis for an exclusive license on our QPI-1002 drug candidate for all indications and we recognized a non-refundable option grant fee. Silence has asserted that it is entitled to receive $2 million of the option grant fee paid to us by Novartis, which we dispute, and Silence has indicated an intention to terminate its agreement with us if we do not make this payment. We believe Silence's claim is without merit, and that the dispute will be resolved as a result of arbitration pursuant to the terms of the agreement with Silence. We may seek to license our other product candidates to third parties in the future. For the next several years, we expect that our revenues will consist primarily of payments from Pfizer, Novartis if the option is exercised, Nitto Denko and any future licensees and collaborators. We have not achieved profitability and we expect to incur significant net losses over the next several years as we expand our research and development activities, advance our product candidates into later stages of clinical development, and expend resources on collaborations and other general corporate activities.

Financial Operations Overview

The following is a description of components of our revenue and operating expenses.

Revenues. We generate revenues mainly from research and development services under our collaborations with pharmaceutical companies, from research and development cost reimbursements and up-front and milestone payments under other collaboration and license agreements and to a lesser extent from certain short-term research service agreements and grants.

Revenues under Pfizer agreement,

In connection with the Pfizer agreement, during the year ended December 31, 2006 Pfizer paid us approximately $14.9 million in upfront fees and reimbursement of on-going research and development expenses incurred after effectiveness of the agreement. Of this, during 2006 we recognized $1.7 million related to reimbursement of on-going research and development expenses and $1.5 million related to the amortization of the deferred upfront payment.

During 2007 we recognized $10.3 million related to the first milestone payment from Pfizer as a result of the start of Phase I study for the first licensed product for the first ophthalmic use, $6.4 million related to reimbursement of on-going research and development expenses and $11.2 million related to the amortization of the deferred upfront payment.

During 2008, we recognized revenues revenue under the Pfizer agreement in the total amount of $17.2 million, of which $12.9 million was a milestone payment following the achievement of the second clinical development milestone for our siRNA drug PF-655 in development for the treatment of ocular diseases. A portion of the milestone payment from Pfizer is payable by us to Silence Therapeutics (formerly; Atugen AG) and Alnylam as technology license milestone payments, $1.9 million and $0.4 million, respectively, both of which were recorded by us as research and development expenses. In addition, during the year ended December 31, 2008, $0.7 million was recorded as a result of amortization of deferred revenues and $3.7 million was recorded as revenues from reimbursement of on-going research and development expenses related to the agreement with Pfizer.

During the year ended December 31, 2009, we recognized total revenue under the Pfizer agreement of $2.6 million which was recorded as revenues from development services.

During the six month periods ended June 30, 2010, the Company recognized total revenue under the Pfizer agreement of $1.0 million from research and development services.

Cost of revenues. Cost of revenues include direct and allocated expenses that are associated with the clinical development-related services provided to Pfizer.

Research and Development Expenses. The majority of our operating expenses to date have been for research and development activities. Costs associated with our research activities and product development efforts mainly include the following:

- costs for conducting preclinical studies, clinical trials, and manufacturing by outsourced vendors and clinical research organizations;
- employee and consultant-related expenses, which include salaries and benefits;
- license fees paid to third parties for use of their intellectual property; and
- direct and indirect expenses required for operation and maintenance of labs and research and development offices, such as supplies and material, rent, utilities, depreciation and other expenses,

At any given time, we have multiple ongoing research and development projects. Our internal resources, employees and infrastructure are not directly tied to any individual project and are typically deployed across multiple projects. We group projects into two major categories: “research” and “preclinical and clinical development.” Through our clinical development programs we are developing each of our product candidates in parallel for multiple disease indications, and through our basic research activities are seeking to design potential drug candidates for multiple new disease indications. We have not therefore maintained complete cost information for each of our projects.

We only commence tracking cost by project when we begin preclinical studies with respect to a particular product candidate and we start development, rather than keeping cost information from the onset of each project. The approximate costs associated with our (a) basic research programs and (b) preclinical and clinical development activities were as follows:

	Year ended December 31,			Period ended June 30,	
				Unaudited	
	2007	2008	2009	2009	2010
			(in thousands)		
Pre-clinical and clinical development					
PF-655*	5,824	3,256	14	7	7
QPI-1002 for AKI	4,927	2,592	2,624	1,576	1,219
QPI-1002 for DGF	—	1,961	3,922	1,729	2,125
QPI-1007	—	750	3,709	2,394	1,725
Other	2,536	578	98	80	—
Total pre-clinical and clinical development	13,287	9,137	10,367	5,786	5,076
Research	7,487	9,589	5,377	3,250	2,707
Total research and development	$20,774	$18,726	$15,744	$ 9,036	$ 7,783

* The product was licensed to Pfizer in September 2006 and development activities have been funded by Pfizer since then, except for certain fees that are only partly reimbursed by Pfizer according to our agreement with Pfizer.

(1) Research constitutes research costs for our early stage programs and technology development.

Research and development expenses, including those paid to third parties, are expensed as incurred. We expect our research and development expenses to increase in the future as we continue to develop our product candidates and advance new product candidates into clinical development.

The majority of our research and development programs are at an early stage and may not result in any approved products. Phase I clinical trials generally are expected to last between 12 and 18 months, Phase 2 clinical trials are expected to last between 18 and 24 months and Phase 3 clinical trials are expected to last between 24 and 42 months. The length of clinical development depends on the specific disease, patient population, time required for recruitment of patients and other factors. For product candidates that are in preclinical development, the timing of an IND filing varies significantly and is difficult to predict. Product candidates that may appear promising at early stages of development may not reach the market for a variety of reasons. Product candidates may be found to be ineffective or to cause harmful side effects during clinical trials, may take longer to advance through clinical trials than had been anticipated, may fail to receive necessary regulatory approvals and may prove impracticable to manufacture in commercial quantities at reasonable cost and with acceptable quality. As part of our business strategy we may enter into new license and collaboration agreements with third parties to complete the development and commercialization of our product candidates and it is uncertain which of our product candidates, if any, may be subject to future license and collaboration agreements. The participation of a licensee or collaborator may accelerate the time to completion and reduce the cost to us of a product candidate or it may delay the time to completion and increase the cost to us due to the alteration of our existing strategy.

As a result of the uncertainties discussed above and those associated with clinical trial enrollment, as well as the risks inherent in the drug development process, we are unable to estimate with any certainty the duration and costs of future clinical trials or, if not already substantially underway, current clinical trials of our product candidates or when, or to what extent, we will generate revenue or receive royalties from the commercialization and sale of any of our product candidates. Any failure or delay in completing clinical trials, or in obtaining regulatory approvals, would cause our research and development expenses to increase and, in turn, have a material adverse effect on our results of operations.

General and Administrative Expenses. General and administrative expenses consist principally of salaries and related costs for personnel in executive, finance, accounting, business development, information

technology, legal and human resources functions. Other general and administrative expenses include facility costs not otherwise included in research and development expenses, patent related costs and professional fees for legal, consulting and accounting services.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as reported revenues and expenses during the reporting periods. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances. The SEC considers an accounting policy to be critical if it is important to a company's financial condition and results of operations, and if it requires the exercise of significant judgment and the use of estimates on the part of management in its application. We have discussed the selection and development of the critical accounting policies with the audit committee of our board of directors, and the audit committee has reviewed our related disclosures in this prospectus. Although we believe that our judgments and estimates are appropriate, actual results may differ from those estimates.

We believe the following to be our critical accounting policies because they are both important to the portrayal of our financial condition and results of operations and they require critical management judgment and estimates about matters that are uncertain:

- revenue recognition;
- accruals, — mainly for research and development expenses for activities performed by third parties;
- stock-based compensation;
- fair value of equity instruments and derivatives and
- income taxes.

If actual results or events differ materially from those contemplated by us in making these estimates, our reported financial condition and results of operations for future periods could be materially affected. See "Risk Factors" for certain matters that may affect our future results of operations or financial condition.

Revenue Recognition

Our revenue recognition policies are in accordance with the Securities and Exchange Commission's ("SEC") Staff Accounting Bulletin No. 104, "Revenue Recognition" ("SAB 104") and Accounting Standards Codification No. 605-25, "Revenue Arrangements with Multiple Deliverables" ("ASC 605-25") and Accounting Standards Codification No. 605-45, "Reporting Revenue Gross Versus Net As an Agent" ("ASC 605-45").

Agreement with Pfizer

Under our agreement with Pfizer, Pfizer is responsible for all preclinical and clinical development costs of the licensed products, as well as all regulatory filings and approvals. The parties will share oversight of development through product-specific committees, but Pfizer has ultimate decision-making authority.

This multiple element arrangement was analyzed to determine whether the deliverables, which include a license and performance obligations such as research and steering committee services, can be separated or whether they must be accounted for as a single unit of accounting in accordance with ASC 605-25. According to ASC 605-25 we considered if (i) the license has stand-alone value and (ii) whether a fair value of any of the undelivered performance obligations can be determined. Because we could not determine fair value of the undelivered performance obligations the arrangement is being accounted for as a single unit of accounting and the upfront front payments are recognized as revenue over the estimated period of when the performance obligations are performed. In addition, revenues are recognized only when we have a contractual right to receive payments, the contract price is fixed or determinable and the collection of the resulting receivable is reasonably assured.

Whenever we determine that an arrangement should be accounted for as a single unit of accounting, it must determine the period over which the performance obligations will be performed and revenue will be recognized.

As we can reasonably estimate when the performance obligations cease or become inconsequential and the performance obligations are provided on a best-efforts basis, the total payments under the arrangement, excluding royalties and payments contingent upon achievement of substantive milestones, are recognized as revenue on a straight-line basis over the period we expect to complete its performance obligations.

Significant management judgment is required in determining the period over which we expect to complete its performance obligations under the arrangement. In addition, as the Company is involved in joint steering and research committees as part of this multiple element arrangement that is accounted for as a single unit of accounting, we assess whether its involvement constitutes a performance obligation or a right to participate. Because Pfizer has acknowledged that the Company can be released from its joint steering and research committees anytime upon request and without penalty, such services are considered inconsequential or perfunctory and are not considered to be performance obligations.

This collaboration agreement also contains milestone payments. During the period in which the Company has research performance obligations, milestone payments are considered to be substantive. Substantive milestone payments are considered to be performance bonuses that are recognized upon achievement of the milestone only if all of the following conditions are met:

- The consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement to the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone.
- The consideration relates solely to past performance.
- The consideration is reasonable relative to all of the deliverables and payment terms (including other potential milestone consideration) within the arrangement.

Reimbursement of costs is recognized as revenue on a gross basis as costs are being incurred in accordance with the provisions of ASC 605-45 provided the amounts are determinable, and collection of the related receivable is reasonably assured.

In 2008, we amended our agreement with Pfizer and started to generate revenue by providing professional services and assistance to Pfizer on a time-and-materials basis. Under the agreement terms, we are paid for services provided by company personnel based on per employee rates and actual hours the employee contributed towards Pfizer projects as well as for costs paid by us to third parties in performing the service.

Revenue is recognized as services are performed, provided that evidence of an arrangement has been obtained, fees are fixed and determinable and collectability is reasonably assured.

Research Collaborations with Pharmaceutical Companies

Under these agreements, our performance obligations were provided on a best-efforts basis. The total payments under each arrangement, excluding royalties and payments contingent upon achievement of development milestones by our collaborators, were recognized as revenue on a straight-line basis over the periods in which we completed our performance obligations. Revenue was limited to the lower of the cumulative amount of payments received or the cumulative amount of revenue earned, as determined using the straight-line basis, as of the period ending dates.

We have no further performance obligations and are not involved in our collaborators' research and development plans. We may be entitled to future milestone payments and royalties from our collaborators, depending on the progress of development of a drug candidate. Revenue from such milestone payments and royalties will be recognized when due and collection is reasonably assured.

Other short term service agreements:

Under certain short term fixed-price service contracts, we agree to perform limited research services using its technology and research platforms for a fixed price. Under these agreements, revenue is deferred until the Company completes its milestone performance obligations.

Accrued Research and Development Costs

We estimate our accrued research and development costs based on our estimates of the services received pursuant to contracts with multiple research institutions and clinical research organizations that conduct and manage preclinical studies, clinical trials and other research activities on our behalf. The financial terms of these agreements vary from contract to contract and may result in uneven payment flows. Accrued research and development costs include accruals for the following:

- contract research organizations in connection with preclinical studies;
- contract research organizations and other clinical sites in connection with clinical trials; and
- contract manufacturers in connection with the production of components and drug materials for preclinical studies and clinical trials.

We record accruals for these research and development contracts based upon progression and percentage of completion of work done. Determination of progress of each contract is based on reports and deliverables but also on estimates such as time for completion and others. All such costs are included in research and development expenses. Costs of setting up a preclinical study or clinical trial are expensed immediately. Costs related to patient enrollment in clinical trials are rerecorded and accrued for as patients are enrolled in the trial.

Stock-Based Compensation

We account for stock-based compensation in accordance with Accounting Standards Codification No. 718-10, "Compensation — Stock Compensation" ("ASC 718-10"). ASC 718-10 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 the Company's consolidated income statements.

We recognize compensation costs net of a forfeiture rate for only those shares expected to vest on straight-line basis over the requisite service period of the award, which is generally the option vesting term of four years. ASC 718-10 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

We selected the Black-Scholes option pricing model as the most appropriate fair value method for its stock-options awards. The option-pricing model requires a number of assumptions, of which the most significant are the expected stock price volatility and the expected option term.

The computation of expected volatility is based on realized historical stock price volatility of competitive Companies. The interest rate for period within the contractual life of the award is based on the U.S. Treasury yield curve in effect at the time of grant. The Company has historically not paid dividends and has no foreseeable plans to pay dividends. The expected term is calculated based on the "simplified method" as defined in Staff Accounting Bulletin No. 107 or SAB 107, "Share Based Payments" and Staff Accounting Bulletin No. 110, or SAB 110, as the average between the vesting period and the contractual life of the options. The Company adopted SAB 110 effective January 1, 2008 and will continue to apply the simplified method until sufficient historical experience is available to provide a reasonable estimate of the expected term for stock option grants.

Stock-based compensation expense includes the fair value of each option to purchase shares of our common stock on the date of grant and is amortized over the vesting period of the underlying option, generally four years using the straight-line method. As further discussed in fair value of equity instruments and derivatives section below there are significant judgments and estimates inherent in the determination of the reassessed fair values.

For non-employees, stock -based compensation expense is recognized over the period of expected service by the non-employee. As the service is performed, we are required to update these assumptions and periodically revalue unvested options and make adjustments to the stock-based compensation expense using the new valuation. These adjustments may result in higher or lower stock-based compensation expense in the statement of operations than originally estimated or recorded. Ultimately, the final compensation charge for each option grant to non-employees is unknown until those options have vested or services have been completed.

Fair value of equity instruments and derivatives

The fair value of the common stock underlying stock options granted during the periods presented were estimated by our board of directors with input from management based upon several factors, including progress and milestones attained in our business. In the absence of a public trading market for our common stock, our board of directors was required to estimate the fair value of our common stock. Our board of directors considered numerous objective and subjective factors in determining the fair value of our common stock at each option grant date, including the factors described below:

- the common stock underlying the option involved illiquid securities in a private company;
- prices of our Series A, Series B, Series C, Series D, Series E, Series F, Series G and Series H preferred stock issued by us primarily to outside investors in arm's-length transactions, and the rights, preferences and privileges of the preferred stock relative to the common stock
- our performance and the status of research and product development efforts;
- developments concerning our collaborations;
- the composition of and additions to the management team;
- our stage of development and business strategy, including our regulatory review status with regulatory authorities; and
- the likelihood of achieving a liquidity event for the shares of common stock underlying these stock options, such as an initial public offering, merger or sale of us, given prevailing market conditions.

In connection with the preparation of the financial statements necessary for the filing of our initial public offering, we have reassessed the fair value of our common stock at option grant dates since 2009 to the present. We did not use a contemporaneous valuation from an unrelated valuation specialist at the time of the option grants, because we believed our board of directors' estimates of the fair value of our common stock to be reasonable and consistent with our understanding of how similarly situated companies in the biotechnology industry were valued. In addition, management's efforts at the time were focused on product development and the financial and managerial resources available to support an unrelated party valuation were limited.

Significant Factors, Assumptions and Methodologies Used in Determining Fair Value

Our board of directors determined the estimated fair value of our common stock on the date of grant based on several factors, including the price at which Series H preferred stock was issued by us to outside investors in arms-length transactions in 2008 and 2010, and the rights, preferences and privileges of the preferred stock relative to the common stock, important developments relating to advancement of our technology and clinical programs, our stage of development and business strategy, the likelihood of achieving a liquidity event for the shares of common stock, such as an initial public offering or sale of our company, given prevailing market conditions, and the market prices of various publicly held life science companies and the level of broad based life science stock indices.

As part of our preparation for our initial public offering during the second quarter of 2010, and in accordance with the valuation approaches set forth in the American Institute of Certified Public Accountants, or AICPA, Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation*, our board of directors reassessed, retrospectively, the fair value of our common stock in 2009. In reassessing the fair value of our common stock, we considered numerous objective and subjective factors, including:

- a third-party independent valuation report prepared by Variance Economic Consulting, Ltd;

- the pricing of private sales of our preferred shares;
- the comparative rights and preferences of our ordinary shares and our preferred shares;
- the progression of our research and product development efforts;
- significant changes, events and milestones in our business development, including the entry into significant license agreements and collaboration arrangements;
- the likelihood of an initial public offering; and
- the market prices and multiples of comparable publicly held biotech companies.

The retrospective analysis utilized the following methods outlined in the AICPA Practice Aid:

Option Pricing Model. Because the proceeds of any liquidation event are to be divided among the holders of our preferred shares prior to the holders of our common shares, we determined that the shares of common stock have the nature of a stock option, which has a positive value only when our liquidation value exceeds the liquidation preference of our preferred shares. Accordingly, an option pricing model was used to estimate the value of our common stock. The common stock value was derived from the implied value for the company based upon the sale of our Series H convertible preferred securities at the valuation date. This approach also took into account the relative seniority, rights, liquidation preferences and conversion ratios of the convertible preferred securities, common shares and warrants as of the valuation date under scenarios of both liquidation and initial public offering.

Discounted Future Cash Flow Method (DCF). To reach enterprise value as of September 30, 2009, we performed a valuation using DCF methodology, which holds the value based on the stream of benefits investors expect to receive, the timing of such benefits and the risk borne by investors.

Based on the foregoing, we determined that the fair value of our common stock in September 2009 was $1.10 per share. The fair market value of our common stock was estimated using the option pricing method utilizing the binomial model described above, with the following assumptions for September 30, 2009: a risk-free interest rate of 0.40%- 0.95%, dividend yield of 0%, volatility of the expected market value of our total invested capital of approximately 75% and an expected term of 2.3 years.

In our valuation, we considered both the possibility of a successful initial public offering and the possibility that a public offering would not be accomplished. Based on the expected probability of the occurrence of the IPO and the non-IPO scenarios, the fair value of our common stock was determined.

Preferred Stock Warrant Liability

We account for our preferred stock warrant in accordance with Accounting Standards Codification 480-10, "Distinguishing Liabilities from Equity" ("ASC 480-10"), which requires that a financial instrument, other than an outstanding share, that, at inception, is indexed to an obligation to repurchase the issuer's equity shares, regardless of the timing or likelihood of the redemption shall be classified as a liability. We measure the fair value of our warrant liability using an option-pricing model with changes in fair value recognized in earnings. Any modifications to the warrant liability are recorded in earnings during the period of the modification.

The significant assumptions used in estimating the fair value of our warrant liability include the strike price, estimate for volatility, risk free interest rate, estimated fair value of the preferred stock, and the estimated life of the warrant. Changes to these assumptions will impact the value of the liability. However, this liability will be converted to additional paid in capital in connection with our initial public offering.

Income taxes

We are required to calculate and account for income taxes in each jurisdiction in which we operate. This involves estimating the current tax exposure in each jurisdiction as well as making judgments regarding the recoverability of deferred tax assets. Our estimates regarding the valuation allowance for deferred tax assets require that we make significant estimates and judgments regarding our future operating results. Our ability to realize deferred tax assets depends on our future taxable income as well as limitations on their utilization. A deferred tax asset is reduced by a valuation allowance if it is more likely than not that some portion or all of

the deferred tax asset will not be realized. The projections of our operating results on which the establishment of a valuation allowance are based involve significant estimates regarding future demand for our products, competitive conditions, product development efforts, approvals of regulatory agencies and product costs. If actual results differ from these projections, or if our expectations of future results change, it may be necessary for us to adjust the valuation allowance. Although we believe that our estimates and judgments about the tax contingencies and valuation allowance are reasonable, actual results could differ, and we may be exposed to income tax expenses that could be material.

We accounts for income taxes in accordance with ASC 740-10, "Income Taxes" ("ASC 740-10"). ASC 740 prescribes the use of the liability method whereby deferred tax asset and liability account balances are determined based on differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company provides a valuation allowance, to reduce deferred tax assets to their estimated realizable value.

Accounting for tax positions requires judgments, including estimating reserves for potential uncertainties. We also assess our ability to utilize tax attributes, including those in the form of carry forwards for which the benefits have already been reflected in the financial statements. While we believe the resulting tax balances as of December 31, 2009 and 2008 are appropriately accounted for, the ultimate outcome of such matters could result in favorable or unfavorable adjustments to our consolidated financial statements and such adjustments could be material. We have filed or are in the process of filing local and foreign tax returns that are subject to audit by the respective tax authorities. We believe that we adequately provided for any reasonably foreseeable outcomes related to tax audits and settlement. However, our future results may include favorable or unfavorable adjustments to our estimated tax liabilities in the period the assessments are made or resolved, audits are closed or when statutes of limitation on potential assessments expire.

Results of Operations

Comparison of Six Months Ended June 30, 2010 and June 30, 2009

Revenue. Revenue decreased to $1.2 million for the six months ended June 30, 2010 from $1.4 million for the six months ended June 30, 2009. The revenue for these periods derived from services provided to Pfizer as described above and in the six months ended June 30, 2010, the revenue also include $0.3 million from our agreement with Nitto Denko. The decrease in revenue is associated with a decrease in the number of hours that our employees contributed to Pfizer projects and from a decrease in the reimbursement of third party costs by Pfizer.

Cost of development services. Cost of development decreased from $0.9 million for the six months ended June 30, 2009 to $0.6 million for the six months ended June 30, 2010.

Research and Development Expenses. Research and development expenses were $7.7 million for the six months ended June 30, 2010, compared to $9.0 million for the six months ended June 30, 2009. Most of the research and development expenses are spent on outsourced activities and fluctuation in costs are typical and are directly linked to the projects phases in the reported periods. A decrease of $1.3 million in the compared periods above resulted primarily from a decrease in pre clinical expenses of $1.8 million related to the NAION project, offset by an increase in clinical studies expenses of $0.3 million and an increase in license expenses to Dharmacon of $0.2 million.

General and Administrative Expenses. General and administrative expenses increased to $2.9 million for the six months ended June 30, 2010, compared to $2.6 million for the six months ended June 30, 2009. This increase resulted primarily from an increase of $0.3 million in professional services expenses.

Net Financial Income. Net financial expenses increased to $141,000 for the six months ended June 30, 2010, from financial income of $57,000 for the six months ended June 30, 2009. This increase in expenses was primarily due to a decrease of our cash and cash equivalent balance and an increase of interest and consumer price index on tax liability.

Comparison of Years Ended December 31, 2008 and 2009

Revenue. Revenue decreased from $17.3 million in 2008 to $2.6 million in 2009. This decrease of $14.6 million was primarily due to $12.9 million in revenue recognized in 2008 in connection with a Phase II milestone payment under our agreement with Pfizer, with no corresponding milestone payment recognition in 2009.

Cost of development services. Cost of development services was $1.7 million in each of the years 2008 and 2009.

Research and Development Expenses. Research and development expenses decreased from $18.7 million in 2008 to $15.8 million in 2009. This decrease of $2.9 million was primarily due to $2.3 million in license expenses we paid as royalties to Atugen and Alnylam in 2008, with no corresponding payment in 2009.

General and Administrative Expenses. General and administrative expenses were $5.0 million in each of 2008 and 2009, with no material changes.

Net Financial Income. Net financial income decreased from $722,000 in 2008 to $87,000 in 2009. This decrease was primarily due to a decrease in our cash balances in 2009 compared to 2008, as well as decreased interest yields on cash and short-term investments.

Income taxes. Tax expenses changed from $1.6 million tax expenses in 2008 to $160,000 tax income in 2009. The tax expenses in 2008 resulted mainly from accruals due to our tax position.

Comparison of Years Ended December 31, 2007 and 2008

Revenue. Revenue decreased from $27.8 million in 2007 to $17.3 million in 2008. In 2007 the revenue was derived mainly from recognition of deferred revenue of upfront payment received on the Pfizer agreement in 2006 and from Phase I milestone payment while in 2008 the revenue derived mainly from Phase II milestone payment under our agreement with Pfizer

Cost of development services. In 2008 following the agreement amendment with Pfizer from May 2008, the company had recorded cost of development services in the amount of $1.7 million. In 2007 there was no cost of development services. Costs related to the agreement with Pfizer were recorded as research and development costs.

Research and Development Expenses. Research and development expenses decreased from $20.7 million in 2007 to $19.0 million in 2008, a decrease of $1.7 million. Most of this research and development expenditure was for outsourced activities and fluctuation in costs is typical and directly linked to the projects phases in the reported periods. In 2008 we discontinued the development of our hearing loss project which was the primary reason for savings of $3.5 million in outsourced expenses, offset by an increase in internal research and development expenses as a result of an expansion of headcount to support clinical operation activities.

General and Administrative Expenses. General and administrative expenses decreased from $7.0 million in 2007 to $5.0 million in 2008. This decrease was primarily due to expenses for professional fees associated with our planned IPO in 2007 of 1.2 million and the forgiveness of a loan to a related party in 2007 in the amount of 0.7 million.

Net Financial Income. Net financial income decreased from $0.9 million in 2007 to $0.7 million in 2008 as a result of decreased interest yields on cash and short-term investments.

Income taxes. Tax expenses increase from $0 in 2007 to $1.6 million in 2008 mainly resulting from our accruals related to accounting for our tax position.

Liquidity and Capital Resources

Since inception, we have financed our operations primarily through private placements of equity securities, receiving aggregate net proceeds from such sales totaling $120.0 million and proceeds from collaboration, service and license agreements totaling $126.8 million. As of June 30, 2010, we had $12.4 million in cash and cash equivalents, as compared to $12.8 million, $32.7 million and $12.2 million as of December 31, 2009, 2008 and 2007, respectively. Our cash and investment balances are held in bank deposits and money market funds.

As of June 30, 2010, we had cash and cash equivalents of $12.4 million. Net cash used for operating activities was $10.3 million for the six months ended June 30, 2010, compared to $9.7 million net cash used in operating activities for the six months ended June 30, 2009, an increase of $0.6 million. The loss for the six months ended June 30, 2010 was $11.7 million and the adjustment to cash was $0.3 million positive. The loss for the six months ended June 30, 2009 was $12.1 million and the adjustment to cash was $1.5 million positive.

Net cash used in investing activities was $80,000 for the six months ended June 30, 2010, compared to $60,000 used in investing activities for the six months ended June 30, 2009, an increase of $20,000. This increase was due primarily to increased purchases of equipment of $37,000 offset by a decrease in other investing activities.

Net cash provided by financing activities was $10.0 million for the six months ended June 30, 2010, compared to $0 for the six months ended June 30, 2009. Net cash provided by financing activities for the six months ended June 30, 2010 consisted of proceeds from the issuance of redeemable preferred stock.

Net cash used in operating activities was $9.6 million, $6.7 million and $19.8 million in 2007, 2008 and 2009, respectively. The use of cash in each period resulted primarily from funding our efforts in research and development, personnel-related costs and obtaining licenses to intellectual property rights. The increase net cash used in 2009 resulted primarily from a substantial decrease in revenue. In 2009 there was no revenue from licenses, which required us to use more cash to support our operations.

Net cash used in investing activities was $305,000, $397,000 and $70,000 in 2007, 2008 and 2009, respectively. The net cash used in investing activities resulted primarily from purchase of equipment of $199,000, $293,000 and $70,000 in 2007, 2008 and 2009 respectively.

Net cash provided by financing activities was $2.3 million, $27.6 million and $0 million in 2007, 2008 and 2009, respectively. The net cash provided by financing activities resulted primarily from exercise of warrants of $2.2 million and sale of redeemable preferred stock of $27 million in 2007 and 2008, respectively.

Based on our current operating plans, we estimate that our existing capital resources, funds to be received pursuant to our agreements with Novartis, Nitto Denko and Pfizer and the net proceeds from this offering, will be sufficient to fund the research and development plans up to meet our financial obligations through the first half of 2013.

We will need to raise additional funds to support our operations, and such funding may not be available to us on acceptable terms, or at all. If we are unable to raise additional funds when needed, we may not be able to continue development of our product candidates or we could be required to delay, scale back or eliminate some or all of our development programs and other operations. We may seek to raise additional funds through public or private financing, strategic partnerships or other arrangements. Any additional equity financing may be dilutive to shareholders and debt financing, if available, may involve restrictive covenants. If we raise funds through collaborative or licensing arrangements, we may be required to relinquish, on terms that are not favorable to us, rights to some of our technologies or product candidates that we would otherwise seek to develop or commercialize ourselves. Our failure to raise capital when needed may harm our business and operating results.

Contractual Obligations

Our future contractual obligations at December 31, 2009 were as follows:

Contractual Obligations	Total	<1 Year	1 – 3 Years	3 – 5 Years	Thereafter
	Payments due by period				
	(in thousands)				
Operating lease obligations[1]	$ 587	$ 495	$ 92	$ —	$ —
Total	$ 587	$ 495	$ 92	$ —	$ —

(1) Our office lease agreement of the Israeli subsidiary ended in June 13, 2010. We are currently negotiating the terms of the new agreement. Since June, 2010 until today we are continuing with the same terms as the previous agreement.

(2) As of December 31, 2009 we have a liability for a severance pay of $0.57 million which is fully covered by deposits for severance pay funds and insurance policies.

The table above reflects only payment obligations that are fixed and determinable. We also have contractual payment obligations, the amount and timing of which are contingent upon future events. Significant contingent payments related to licensing and other arrangements not included in the contractual obligations table above are as follows:

- Under our December 2004 collaboration agreement with Silence Therapeutics, or Silence, and subsequent amendments, we are required to pay Silence a percentage of our receipts from Pfizer under our license agreement with Pfizer, including milestone and royalty payments, but excluding payments specifically committed to cover research and development costs. The timing and amount of these receipts from Pfizer, if any, and therefore the corresponding payments to Silence, are contingent on the achievement of milestone and other events and cannot be estimated with any certainty. Under our April 2005 option and license agreement with Silence, we exercised the option to license siRNA-structure related intellectual property for use in siRNA molecules targeting the p53 gene from Silence and we paid an option fee of either €50,000 or €100,000 and an exercise fee of either €250,000 or €500,000, depending in each case on whether the licensed patents had issued. We granted to Novartis an option to receive a sublicense under the Silence option and license agreement. If Novartis exercises its option in the future we would be required pay Silence a percentage of certain payments we receive from Novartis. We are also required to make development milestone payments based on the progress of clinical trials and regulatory approval, and royalties on any sales of any licensed products for which we have exercised an option. The amount and timing of these milestone and royalty payments, if any, are contingent and cannot be estimated with any certainty. In addition, Silence has asserted that it is entitled to receive $2 million of the option grant fee paid to us by Novartis, which we dispute, and Silence has indicated an intention to terminate its agreement with us if we do not make this payment. We believe Silence's claim is without merit, and the dispute will be resolved as a result of arbitration pursuant to the terms of the agreement with Silence.
- Under our September 2006 license agreements with Alnylam Pharmaceuticals, Alnylam granted us non-exclusive worldwide licenses under three families of patents and patent applications it owns or controls. The agreements provide for payment by us to Alnylam of annual maintenance fees and up to $7.3 million in contingent development and product approval milestone payments, which are not included in the above table. We will also be required under the license agreements to pay Alnylam royalties on any sales by us or our sublicensees. We granted Pfizer a sublicense on the patents and patent applications licensed to us under the RTP-801 Alnylam agreement. Under the license agreement we entered into with Pfizer, Pfizer will partially reimburse our payments to Alnylam under the RTP-801 agreement. The amount and timing of these milestone and royalty payments, if any, are contingent, and cannot be estimated with any certainty. We granted Novartis an option for a sublicense under the patents and patent applications licensed to us under the p53 Alnylam agreement.

- In September 1999, we entered into an exclusive worldwide license with the University of Illinois at Chicago related to the therapeutic inhibition of p53 and small molecule p53 inhibitors for all uses and indications. Under the agreement, we are required to pay the university a future royalty based on our sales of products incorporating the licensed intellectual property, if any, and a share of any sublicensing revenues, including milestones and royalties, if any, received from sublicensees. These payments by us to the university, if any, are contingent and cannot be estimated with any certainty. To date, we have not granted any sublicense under our license from UIC, however we have granted Novartis an option for an exclusive sublicense on patents and patent applications under the UIC agreement through our option agreement with Novartis.
- In January 2010, Dharmacon, Inc., a wholly owned subsidiary of Thermo Fisher Scientific Inc. ("Dharmacon"), granted us an exclusive worldwide license under its patents and patent applications, related to specific siRNA molecule(s) and their use for the inhibition of p53, for all uses and indications. Under the agreement, we are required to pay certain milestone payments upon achievement of development milestones as well as royalties on future sales of licensed product. We are also required to pay a share of any payments we receive from sublicensees. To date, we have not granted any sublicenses under our license from the Dharmacon, however we have granted an option for an exclusive sublicense to Novartis thorough our option agreement with Novartis.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements or relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities.

Recent Accounting Pronouncements

In October 2009, the FASB issued an update to ASC Topic 605-25, "Revenue recognition — Multiple-Element Arrangements", that provides amendments to the criteria for separating consideration in multiple-deliverable arrangements: (i) establishing a selling price hierarchy for determining the selling price of a deliverable. The selling price used for each deliverable will be based on vendor-specific objective evidence if available, third-party evidence if vendor-specific objective evidence is not available, or estimated selling price if neither vendor-specific objective evidence nor third-party evidence is available. A vendor will be required to determine its best estimate of selling price in a manner that is consistent with that used to determine the price to sell the deliverable on a standalone basis (2) eliminating the residual method of allocation — requires that arrangement consideration be allocated at the inception of the arrangement to all deliverables using the relative selling price method, which allocates any discount in the overall arrangement proportionally to each deliverable based on its relative selling price. (iii) Requiring expanded disclosures of qualitative and quantitative information regarding application of the multiple-deliverable revenue arrangement guidance. The mandatory adoption is on January 1, 2011. The Company may elect to adopt the provisions prospectively to new or materially modified arrangements beginning on the effective date or retrospectively for all periods presented. The Company does not expect the adoption will have material impact on its consolidated financial statements.

In March 2010, the FASB issued an additional update to ASC 605 (ASU No. 2010-17, "Revenue Recognition — Milestone Method), which provides guidance related to revenue recognition that applies to arrangements with milestones relating to research or development deliverables. ASU 2010-17 provides criteria that must be met to recognize consideration that is contingent upon achievement of a substantive milestone in its entirety in the period in which the milestone is achieved. ASU 2010-17 is effective for interim and annual periods beginning after June 15, 2010. Early adoption is permitted. The Company will adopt ASU 2010-17 on August 1, 2010. The adoption of ASU 2010-17 is not expected to have any material impact on the Company's financial position, results of operations or cash flows.

Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Risk

We are exposed to market risk related to changes in interest rates primarily from our investments in certain short-term investments. Our current investment policy is to maintain an investment portfolio through highly rated financial institutions in Israel and the United States, primarily in money market funds. While our cash and investment balances will increase upon completion of this offering, we will maintain an investment portfolio consisting mainly of U.S. money market and government grade securities, directly or through managed funds. We do not utilize derivative financial instruments, derivative commodity instruments or other market risk-sensitive instruments to manage exposure to interest rate changes. Accordingly, we believe that, while the securities we hold are subject to changes in the financial standing of the issuer of such securities, we are not subject to any material risks arising from changes in interest rates.

Exchange Rate Risk

We do not use derivative financial instruments and have no foreign exchange contracts. From time to time based on market terms, we convert Dollars to New Israel Shekels (NIS) to hedge our expenses denominated in NIS. We are exposed to market risk associated with exchange rate movements of the U.S. dollar, our functional and reporting currency, mainly against the New Israeli Shekels. We expect to derive substantially all of our revenues in U.S. dollars. However, the majority of our Israeli subsidiary's expenses are denominated in New Israeli Shekels, and we anticipate that a material portion of our Israeli subsidiary's expenses will continue to be denominated in New Israeli Shekels. If the U.S. dollar weakens against the New Israeli Shekels, we will experience a negative impact on our results of operations. Historically, the effect of fluctuations in currency exchange rates has had a low impact on our consolidated operations. We periodically assess the applicability of the U.S. dollar as our functional currency by reviewing the salient indicators. Neither a 10% increase nor decrease from current exchange rates would have a material effect on our operating results or financial condition.

BUSINESS

Overview

We are a clinical-stage pharmaceutical company engaged in discovering and developing novel RNA interference or RNAi-based therapeutics. We have a fully integrated drug development platform that spans from therapeutic target identification based on our proprietary gene discovery science and technology, to clinical drug development. We focus on RNAi-based therapeutics for the treatment of diseases associated with oxidative stress and ischemic injury. We believe that our insight into the molecular mechanisms underlying these diseases, combined with our ability to design, chemically modify and successfully deliver synthetic small-interfering RNA, or siRNA, to specific organs in the body, enables us to rapidly develop drug candidates, often directed against the same target across multiple therapeutic areas. We have three product candidates in clinical development in five different indications: PF-655 (previously RTP801i-14) for the treatment of diabetic macular edema and for wet age-related macular degeneration; QPI 1002 (previously I5NP or AKIi-5) for the prevention of acute kidney injury and for prevention of delayed graft function in kidney transplant patients; and QPI 1007 for ocular neuroprotection. We have licensed PF-655 to Pfizer on an exclusive worldwide basis and we granted an option to Novartis for an exclusive license to QPI 1002. We have a broad pipeline based on our internally developed chemically modified siRNA structures. Several of our product candidates are based on novel targets and therapeutic concepts discovered using our BiFAR™ target gene discovery platform. We believe that our platform technologies, siRNA capabilities and intellectual property combined with the proven expertise of our regulatory, medical, preclinical and clinical development group will enable us to continue to advance new product candidates into clinical development, either directly or through collaborations with major pharmaceuticals companies.

PF-655 is in two Phase II clinical trials for the treatment of diabetic macular edema and for the treatment of wet age-related macular degeneration. PF-655 is a stabilized, synthetic, chemically modified siRNA that inhibits our proprietary target RTP-801, a gene we believe plays a significant role in wet age related macular degeneration and diabetic macular edema. We have licensed PF-655 to Pfizer on an exclusive worldwide basis. Pfizer is responsible for development in collaboration with us and is required to make payments to us upon achievement of development and commercialization milestones, as well as pay us royalties from sales of any approved products. Pfizer is conducting the Phase II clinical trials in collaboration with us. Enrollment in both Phase II trials has been completed and dosing of both trials and a follow period is expected to be completed in late 2010. In the development of our drug candidate QPI-1002 we completed two Phase I trials for the prevention of acute kidney injury in patients undergoing major cardiac surgery and for prevention of delayed graft function in kidney transplant patients. In both trials QPI-1002 was administered systemically with no dose limiting toxicities observed in both AKI and DGF trails. QPI-1002 is a synthetic, chemically modified siRNA molecule designed to temporarily inhibit the expression of p53, a gene we believe plays a significant role in ischemic injury related conditions in the kidney. In August 2010 we granted to Novartis an option for a worldwide exclusive license to QPI-1002 for all indications. We are also developing QPI-1007 as a neuroprotective agent for the treatment of sudden vision loss associated with non-arteritic anterior ischemic optic neuropathy. We are conducting a Phase I trial of QPI-1007, our third SiRNA development for the treatment of non-arteritic anterior ischemic optic neuropathy. QPI-1007 is a chemically modified siRNA, designed to inhibit a gene named caspase 2, and it is our first drug candidate based on novel siRNA structure developed internally by Quark. If effective in non-arteritic anterior ischemic optic neuropathy, we plan to develop QPI-1007 also for glaucoma. In addition, we expect to initiate during 2012 formal preclinical studies towards filing IND applications in one or more of our broad pipeline programs based on the novel siRNA structures we develop.

Our insight into the pathogenesis of diseases, combined with our proprietary targets and concepts and our solution to siRNA delivery, led us to select siRNA as the modality for our clinical programs. We believe that our integrated discovery and development approach is particularly well-suited to RNAi-based therapeutics and is based on the following main capabilities:

- *Identifying clinically attractive drug targets using our BiFAR™ discovery platform.* Using our BiFAR™ discovery platform, we have identified and validated many gene and protein targets and treatment concepts for diseases, including diseases associated with oxidative stress and ischemic injury. We focus on diseases expressed in organs where we have successfully delivered our siRNA molecules.
- *Selection of diseases associated with oxidative stress across several therapeutic areas for the same target.* We believe that our focus on diseases, which share common molecular mechanisms, will enable us to more quickly identify drug candidates capable of treating multiple diseases based on proprietary targets common to diseases in different organs of the body. For example, we have demonstrated in preclinical models that inhibition of the RTP-801 gene has beneficial therapeutic effects in various diseases associated with oxidative stress, such as wet age-related macular degeneration oxygen-induced retinopathy, diabetic macular edema, acute ischemia-reperfusion kidney injury, acute cigarette smoke-induced lung injury and chronic obstructive pulmonary disease. We have licensed to Pfizer the right to develop and commercialize siRNA drug candidates that inhibit RTP-801 in all indications. Furthermore, we have also demonstrated that temporary and reversible inhibition of the gene p53 limits the injury caused by oxidative stress in the kidney and in the inner ear, and thus is potentially useful for the treatment of acute renal failure and acute hearing loss.
- *Designing and modifying our siRNA molecules to enable successful local or systemic delivery.* Our siRNA drug candidates have a sequence selected by our SIRS algorithm, and have a chemically modified, stabilized structure and properties that we believe offer significant advantages over standard siRNAs. In preclinical studies, we have successfully delivered siRNA molecules and suppressed target genes in the back of the eye, inner ear, proximal, tubules of the kidney, lung and spinal cord, demonstrating both local and systemic delivery. We select the route of delivery that is clinically relevant for the given organ. Two of our siRNAs were delivered via local administration to the back of the eye in Phase I and Phase II studies. Our QPI-1002 was, according to publicly available information, the first siRNA administered systemically to human patients.
- *Optimizing our siRNA molecules for improved potency, nuclease stability, selectivity and lack of stimulation of innate immune response.* We use our internally developed siRNA structures and intellectual property to design lead drug candidates with enhanced properties and a strong intellectual property position.

Some of our product candidates are based on our BiFAR™ target gene discovery platform and our siRNA technology platform. The BiFAR™ platform directly identifies clinically relevant critical genes and proteins that are responsible for certain disease traits. BiFAR™ works by high throughput, genome-wide functional screening of inhibitory elements, such as siRNA, that block activity of key components of pathologic cell responses and thus reverse the disease traits, or disease phenotype. Our BiFAR™ discovery platform was the basis for several collaboration agreements with pharmaceutical companies and has generated many innovative targets potentially suitable to create drugs to treat a wide range of diseases. Our siRNA technology platform includes proprietary drug delivery methods, proprietary algorithms to select the most appropriate sequence for the siRNA molecule and novel siRNA structures developed based on our deep understanding of the siRNA mechanism. Our novel siRNA structures are created with the aim to provide desirable drug-like properties to our siRNA molecules and to strengthen our intellectual property position.

We believe we have a solid intellectual property position relating to the development and commercialization of our product candidates. We seek patent protection in the United States, Europe and selected other jurisdictions for our product candidates, methods of therapeutic use, delivery methodologies, target genes and our proprietary discovery technology. As of August 23, 2010, we own or control 63 issued and 2 allowed patents in the United States and elsewhere in the world and over 130 patent applications in the United States and elsewhere. In addition, we have in-licensed on a non-exclusive basis 32 granted patents in United States and 9 other jurisdictions and 58 patent applications pending in the United States and in 14 other jurisdictions, relating to RNAi technology.

RNAi Overview

RNA interference, or RNAi, is a process that occurs naturally within cells and selectively and temporarily silences the expression of specific genes. In addition, RNAi is a naturally-occurring part of our immune system that is helpful in silencing infectious agents. Genes are the basic units of inheritance. Each gene consists of a defined segment of a substance known as deoxyribonucleic acid, or DNA. Genes provide cells with instructions (via transcription process to messenger RNA molecules) for producing proteins via a translation process of messenger RNAs. Many human diseases are caused by the abnormal behavior of proteins. A particular protein may, for example, be present in too great a quantity, be too active or appear in the wrong place or at the wrong time, or be produced in an aberrant form that has different, unwanted properties and function compared to the native one. In these circumstances, the ability to stop or reduce production of the protein by selectively silencing the expression of the gene that directs its synthesis (by destroying its messenger RNA template or interfering with the translation process) could be very beneficial in the treatment of disease. Harnessing the natural phenomenon of RNAi holds potential for the development of a new class of drugs applicable to a wide range of diseases that result from undesirable protein production. In addition the RNAi approach is applicable to viral diseases by inhibiting viral replication.

The DNA molecule is double-stranded, composed of two complementary strands of building blocks called desoxyribonucleotides. DNA is found is cell nuclei and contain all genetic information of the organism. RNA is another type of nucleic acids found in the cell. Until recently, three major RNA types were known: messenger RNA (mRNA) that is transcribed from DNA and serves a substrate for translation of genetic information stored in DNA into protein; transport RNA, or tRNA, that participates in the process of translation of information encoded in mRNA into protein; and ribosomal RNA that is contained in ribosomes, protein synthesis machines, and performs structural functions. The information in DNA is translated into proteins with the help of another substance called messenger ribonucleic acid. While the predominant form of RNA is a single-stranded molecule, cells also contain fragments of double-stranded RNA. Double-stranded RNA is processed into small fragments called small-interfering RNA, or siRNAs, that act as guides for the sequence-specific silencing of target genes. This occurs when the guide strand siRNA aligns with a messenger RNA molecule having complementary nucleotide sequences and thereby induces its degradation, or interfere with the translation process, thus temporarily silencing expression of the corresponding target gene. The potential application of the RNAi process for drug development was significantly advanced when it was shown in animal models that the introduction of synthetic siRNAs complementary to the target gene can effectively silence expression of the gene.

We believe that RNAi-based therapeutics have potentially significant advantages over traditional therapies, including the following:

- **Broad Applicability.** RNAi-based drugs can potentially treat any disease or condition for which an abnormal gene function or a viral agent is identified as the cause of, or as an essential contributing factor to, the disease. Importantly, included are diseases in which the protein causing the disease cannot be targeted effectively by existing drug classes, such as small molecules since their identification requires the protein to have a specific readily measurable function or monoclonal antibodies, due to poor accessibility of the target protein.
- **Safety and Therapeutic Precision.** Because RNAi is a naturally occurring process and because natural siRNA consists of nucleic acids, siRNA drugs can be metabolized. RNAi-based drugs may reduce or avoid some of the side effects associated with traditional small molecule drugs, as they can be designed to selectively inhibit expression of disease-associated target genes, with minimal effects on other genes in the body.
- **Inherent Potency.** RNAi-based drugs may have a higher potency than certain small molecule drugs because one siRNA molecule can lead to the destruction of multiple target messenger RNA molecules, thus blocking the synthesis of many protein molecules.

- **Shortened and Simplified Drug Discovery Timelines.** When a target gene is identified, the siRNA drug candidate is rationally designed for the sequence-specific silencing of that gene. This process typically takes a number of months and results in the identification of a drug candidate ready for animal studies. In contrast, the identification of small molecule drug candidates is expensive and time-consuming and requires multiple cycles of optimization that include challenging chemical synthesis design and testing, and often takes years.

To date, major challenges in the development of RNAi-based therapeutics have been delivery, nuclease resistance, specificity and avoiding stimulation of innate immune responses:

- **Delivery.** Delivery of RNAi-based therapeutics is generally more challenging than traditional small molecule or antibody delivery due to the very fast degradation and excretion of unmodified siRNA from the body. In addition, the siRNA needs to overcome multiple tissue barriers to get inside the target cells before eliciting its biological activity. Systemic delivery of a chemically synthesized siRNA to tissues and cells relevant to disease processes in the body is particularly challenging. Therefore, delivery strategies capable of transporting a siRNA molecule through physical barriers within the body to the target tissue while enhancing cellular uptake of the siRNA molecule, is key to enable the successful therapeutic applications of siRNA drugs.
- **Stability.** To date, one of the major limitations of RNAi has been the instability of unmodified siRNAs, which generally break down rapidly in the body. This degradation restricts the duration and magnitude of their potential therapeutic activity. Effective drugs need to be stable in body fluids and in cells to ensure an adequate therapeutic response. Chemically modified siRNA must achieve an optimal balance between stability and low toxicity as the safety profile of siRNA therapeutics depends on the fact that they can be easily degraded by the body.
- **Specificity and avoiding induction of innate immune response.** For siRNA-based therapeutics to be a useful as drugs, it is critical that the silencing effect of the siRNA be specific, that is, ideally, the siRNA must not cause any effects other than those related inhibiting the expression of the target gene. There are several types of nonspecific or "off-target" effects that siRNA could potentially display including the possibility of binding to matched target sequences in other messenger RNAs besides the intended target. Furthermore, there are natural defense mechanisms referred to as innate immune responses that can be activated by siRNAs. These unwanted side effects of siRNAs can be avoided by incorporating appropriate chemical modifications. Chemically modified siRNA must achieve the lowest possible level of off-target effects for the siRNA drug to be effective and safe.

Our Approach

To overcome these hurdles, our integrated siRNA discovery and development strategy is based on the following main capabilities:

- Identifying clinically attractive target genes, often but not exclusively by using our BiFAR™ platform, that when inhibited, reverse disease phenotypes;
- Harnessing our insight into the pathogenesis of diseases associated with oxidative stress in various organs of the body to generate drug candidates that may be active across multiple therapeutic areas, focusing on diseases representing significant unmet medical needs;
- Designing and optimizing synthetic siRNAs for therapeutic application. We select the most appropriate sequences for siRNA using proprietary design algorithms and chemically modify them based on internally developed know-how protected by intellectual property to enhance properties necessary for successful application in the clinic, including:
  - Potency
  - Stability
  - Reduced side effects stemming from off-target activity and activation of innate immune responses

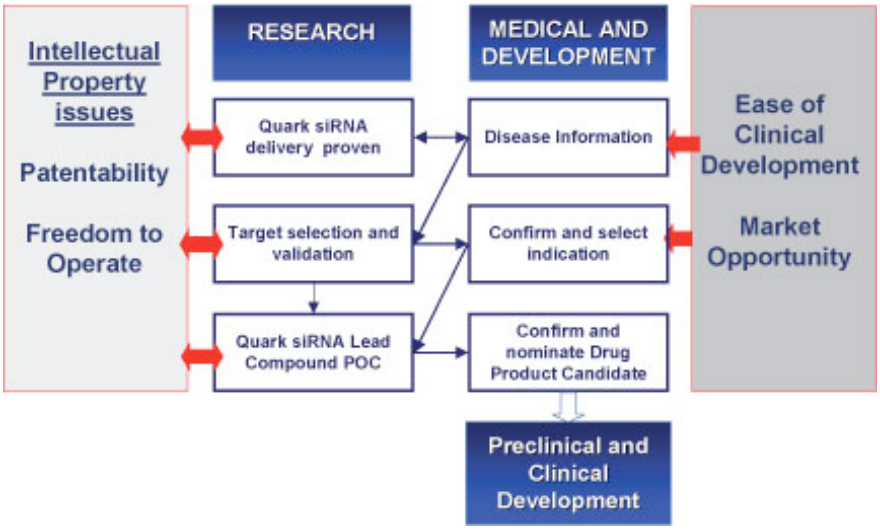
- Delivering our modified siRNA molecules either locally or systemically to the appropriate diseased organs and cells in the body; and
- Developing our siRNA drug candidates in the most clinically relevant indications. To achieve this goal our fully integrated research, preclinical and clinical development groups work in teams to ensure that optimal drug design and development starts at the stage of discovery. Upon achievement of proof of concept in animal studies, often in collaboration with opinion leaders in the particular indication, our expert developments team (regulatory, medical, preclinical and clinical development) is then responsible for the clinical development.

We believe that our siRNA drug candidates meet the primary challenges of RNAi-based therapeutics development:

Delivery. In preclinical studies, we have successfully delivered our siRNA candidates locally and systemically to target cells in various organs of interest including the back of the eye, inner ear, proximal tubules of the kidney, lung, spinal cord and brain.

Stability, Specificity and Avoiding Innate Immune Response. Our siRNA drug candidates have a chemically modified, stabilized structures that we believe offer significant advantages over standard siRNAs. We chemically modify our drug candidates with naturally occurring nucleotides or other nucleotides in specific proprietary combinations and structures, that significantly reduce or completely abrogate unwanted side effects. We have shown in preclinical studies that our siRNA drug candidates exhibit favorable safety profiles following either local or systemic administration at dose levels above the proposed clinical range. In addition, we believe we have demonstrated in vitro and in vivo stability of our drug candidates to elicit therapeutic responses in animal disease models.

Our method for drug candidate selections is shown schematically below.



We begin by identifying indications we view as attractive due to our ability to successfully deliver our siRNA molecules to the target organ and cells, and we select the route of administration that is clinically relevant for delivery to a given organ of interest. From the potential indications, we often select those associated with oxidative stress since it is a main pathogenic feature of numerous diseases in various organs. This allows us to potentially use one siRNA for multiple indications. For example, our PF-655 is in Phase II clinical trials for both wet age-related macular degeneration and diabetic macular edema. We focus on diseases that represent an unmet medical need with significant market potential. We then utilize our pool of proprietary target genes, many of which were previously identified by our BiFAR^{TM} platform to generate potential siRNA candidates that inhibit these specific target genes. As a next step, we synthesize stabilized siRNA molecules selected by our proprietary software utilizing our siRNA structures developed internally. We test these molecules activity *in vitro* in cell culture and *in vivo* in animal models of each disease, often in collaboration with opinion leaders in the particular indication. This process typically takes only a few months for each

disease. At all times we verify our selection choices in view of patentability, freedom to operate, and clinical development issues for selection of the most suitable indication for clinical development. In all steps of the process our research teams work with medical, marketing and intellectual property personnel with the objective of maximizing the opportunity for future success in clinical trials and commercialization. The outputs of this process are novel siRNA drug candidates that inhibit expression of relevant target genes for the proposed disease indication.

Our Product Candidates

Our current product pipeline includes siRNA drug candidates targeting diseases associated with oxidative stress that represent significant unmet medical needs. The following table sets forth the status of our product pipeline and research programs:

Product Candidate	Indication	Status	Commercialization Rights
PF-655	Diabetic Macular Edema	Phase II DEGAS study ongoing, enrollment completed	Pfizer (Worldwide)
PF-655	Wet Age-related Macular Degeneration	Phase II MONET study ongoing, enrollment completed	Pfizer (Worldwide)
QPI-1002	Acute Kidney Injury	Phase II expected to initiate dosing in the first half of 2011	Option granted to Novartis for Worldwide rights
QPI-1002	Delayed Graft Function in Kidney Transplant patients	Phase II ongoing (Interim analysis expected by mid 2012)	Option granted to Novartis for Worldwide rights
QPI-1007	Non arteritic Anterior Ischemic Optic Neuropathy	Phase I (Dosing and preliminary review of data expected to be completed during the first half of 2011)	Quark (Worldwide)
QPI-1007	Acute Glaucoma	Preclinical toxicity studies for multiple dosing	Quark (Worldwide)
Program for pipeline siRNAs for neuron protection and neural regeneration	Diseases of the central nervous system, eyes and ears such as spinal cord injury, peripheral nerve injuries, neuropathic pain, hearing loss conditions, vestibular diseases.	*In vivo* proof-of-concept was accomplished in spinal cord injury with a drug candidate with endpoints of post-injury recovery and reduction of neuropathic pain. Further in vivo studies are ongoing in several indications.	Quark (Worldwide)
Program for respiratory system conditions	Acute Lung Injury, Lung Transplantation	*In vivo* proof-of-concept studies were accomplished in lung transplantation models. Further in vivo studies are ongoing	Quark (Worldwide)
Program for chronic conditions by systemic delivery of siRNA	Chronic Kidney Disease Cancer	Delivery studies and *in vivo* proof-of-concept studies at various stages.	Quark (Worldwide)
Fibrotic diseases in collaboration with Nitto Denko	Fibrotic conditions in the liver and other organs	Preliminary proof of concepts was successfully performed by Nitto Denko. We are currently performing siRNA design and delivery studies. (Filing of initial IND application expected by 2012)	Nitto Denko (Worldwide)

Clinical portfolio

PF-655 in Phase II Clinical Trials for Diabetic Macular Edema and Wet Age-Related Macular Degeneration

The Drug Candidate. PF-655 is a synthetic, chemically modified siRNA molecule designed to inhibit the expression of the hypoxia- inducible gene RTP-801. Using our BiFAR™ platform, we discovered the gene RTP-801 and identified it as a likely major factor in the induction of various diseases associated with oxidative stress. In September 2006, we exclusively licensed PF-655 to Pfizer for many indications, and are collaborating with them in the development of the drug candidate for ophthalmic indications. PF-655 is being evaluated in two Phase II clinical trials, one for the treatment of diabetic macular edema and another for the treatment of wet age related macular degeneration.

Preclinical results. We have conducted pharmacology studies of PF-655 in the mouse laser-induced model of choroidal neovascularization, an accepted model of wet age-related macular degeneration. In these studies, PF-655 specifically inhibited expression of RTP-801 in the choroid and inhibited both abnormal blood vessel growth and leakage in a dose-dependent manner as well as migration of inflammatory induced cells. In a side-by-side comparison, the effects of PF-655 on blood vessel growth were superior to that produced by either Macugen® or a neutralizing antibody to mouse VEGF used as an animal analogue to Lucentis®/Avastin®. In similar studies, PF-655 was found to have an additive effect in combination with Macugen® and the mouse anti-VEGF antibody to prevent neovascularization and vessel leakage. These results indicate that PF-655 acts through a different pathway than anti-VEGF drugs. PF-655 was also shown to exhibit anti-apoptotic activity, and demonstrated superior anti-inflammatory properties compared to anti-VEGF drugs. The efficacy seen in the mouse model was further confirmed in a monkey laser-induced choroidal neovascularization model of wet age related macular degeneration.

In support of the diabetic macular edema indication, RTP-801 knockout mice showed a 70% reduction in retinal blood vessel leakage compared to either mice with an intact RTP-801 gene or wild type mice, four weeks after induction of diabetes. Compared to control siRNA, PF-655 was shown to decrease retinal blood vessel leakage in the diabetic mice by 50%.

In preclinical studies, PF-655 was found to be resistant to degradation in body fluids. Based on these studies, we believe that PF-655 delivered locally (i.e., via intravitreal injection) will persist for several weeks, suggesting that relatively infrequent dosing may be possible in humans. Following intravitreal injection in animals, we did not observe any significant systemic exposure, demonstrating a favorable distribution profile combining the desired prolonged local exposure with limited systemic exposure. In preclinical toxicology studies, a low frequency of mild and reversible ocular inflammation was observed. Following intravenous administration, no systemic toxicity was observed in the rat at blood levels more than 10,000 times greater than levels observed in the blood of patients in Phase I human clinical studies.

Phase I Clinical Trial. In the Phase I clinical trials we conducted, no dose limiting toxicities were observed. The study was an open-label, dose escalation trial in patients with wet age related macular degeneration for the safety and tolerability of PF-655 administered as a single intravitreal injection. Stratum 1 of the trial included patients who, due to advanced disease, failed to respond to a prior regimen, or were judged not likely to show improvement in their visual acuity from currently available treatment options such as Lucentis®, Macugen®, PDT or steroid-based therapy, or patients who had failed at least one of these prior treatment options. Stratum 2 of the trial included patients who, in the opinion of the investigator, had the potential to show improvement in visual acuity from other treatment options. Since the trial was conducted in patients, secondary objectives included determination of the changes in visual acuity after administration of PF-655. Although change in visual acuity can indicate clinical activity of the drug candidate, the trial was not designed to measure clinical activity in a statistically significant manner. However, clinically meaningful change was observed in visual acuity of the patients in Stratum 2.

This Phase I study served as the basis for further clinical development in both age related macular degeneration and diabetic macular edema. Following its completion, Pfizer initiated two Phase II trials currently being conducted in collaboration with Quark. These trials are discussed separately below.

Development of PF-655 in Diabetic Macular Edema

Disease Background and Market Opportunity. Diabetic macular edema is swelling of the macula as a result of retinal microvascular changes that occur in patients with diabetes and is the major cause of visual impairment in diabetic patients. Diabetic macular edema is a common complication of diabetic retinopathy and is the cause of most of the functional visual loss in patients with this condition. Diabetes mellitus and its systemic and ophthalmic complications represent an enormous public health threat in the United States. The prevalence of diabetes in the United States is currently estimated at 7% or approximately 21 million. Diabetic macular edema affects up to 10% of all patients with diabetes with 75,000 new cases occurring every year.

Limitations of Current Therapy. Laser photocoagulation is the current standard of care in the treatment of diabetic macular edema. Although laser therapy may slow visual loss, the major drawbacks are that it is rarely accompanied by vision gain, and it is not appropriate in all cases of diabetic macular edema. Furthermore photocoagulation is a late and destructive procedure that does not address the underlying etiology of the diseases. There are several classes of drugs that are being employed in the management of diabetic macular edema, including corticosteroids (triamcinolone acetonide) and the anti-VEGF drugs (mainly bevacizumab, and ranibizumab or Avastin® and Lucentis® respectively), however, none of these drugs is currently approved by the FDA for the treatment of diabetic macular edema.

PF-655 Value proposition. We believe, based on preclinical and clinical results to date, that PF-655 may offer the following:

- Improvement of visual acuity in subjects with diabetic macular edema.
- PF-655 targets the proprietary gene RTP-801, and has been shown to have a distinct mechanism of action compared to current investigative VEGF-targeting drugs. We believe that the novel mechanism of action offers potential for less frequent dosing compared to competing therapies and VEGF inhibitors currently in development. In addition, due to its different mechanism of action, it may allow potential combination therapy with current therapies and therapies under investigation.
- In preclinical models PF-655 inhibited growth of new blood vessels and reduced vascular permeability, suggesting a therapeutic effect of PF-655 in diabetic macular edema, where increased vascular permeability causes increased retinal thickness and eventually visual acuity loss.

Current Phase II Clinical trial — the DEGAS study. PF-655 is currently being studied in a prospective, randomized, multi-center, comparator study evaluating efficacy and safety of PF-655 versus laser in subjects with diabetic macular edema called the DEGAS trial. This is a Phase II, randomized, single-blind, parallel-assignment safety/efficacy study conducted by Pfizer in collaboration with Quark. Enrollment was completed in the DEGAS study in October 2009 and we expect to have interim results by the end of 2010 based upon 12 month follow up on all patients. Based on the results of this study, Pfizer may decide to proceed to Phase III clinical trials, to initiate a Phase IIb trial or to stop trials.

Development of PF-655 in Age-related Macular Degeneration

Disease Background and Market Opportunity. Age-related macular degeneration is the leading cause of central vision loss in the elderly. Age-related macular degeneration occurs when the light sensing cells in the central portion of the retina, called the macula, malfunction and over time cease to work. Wet age-related macular degeneration is the more severe form of the disease and accounts for approximately 10% of all AMD cases, yet it causes approximately 90% of blindness associated with age-related macular degeneration. Wet age-related macular degeneration occurs when abnormal blood vessels grow through a process known as neovascularization, or angiogenesis, in the layer of the vascular system immediately behind the retina, called the choroid. This growth is known as choroidal neovascularization, and damages the macula. These new blood vessels are weak and leak blood and fluid under the retina. This process causes damage to the retina resulting in impaired vision, blind spots and eventually blindness. Of the 15 million people in the United States with some form of age-related macular degeneration, close to 1.8 million adults 40 years and older have been

diagnosed with the more rapidly progressive wet age-related macular degeneration with associated vision loss, and 200,000 new cases of wet age-related macular degeneration are diagnosed each year, according to National Eye Institute data. The National Eye Institute estimates that the number of people with wet age-related macular degeneration in the United States will increase by 50% to 2.95 million by 2020.

Limitations of Current Therapy. Current treatments for wet AMD generally slow further vision impairment, and only significantly improve vision in a minority of cases. In addition, there are non-responders to current treatments. Treatment options that attempt to control the abnormal blood vessel growth and leaking associated with wet age-related macular degeneration include laser photocoagulation and photodynamic therapy, as well as the angiogenesis inhibitor drugs Lucentis®, the standard-of-care treatment, Avastin® and Macugen®. Current non-drug therapies utilize a laser to limit the growth of abnormal blood vessels but have been shown to be destructive to the ocular tissues. Lucentis®, Avastin® and Macugen® are inhibitors of the angiogenic growth factor, VEGF, as are most of the drug therapies currently in development. According to published data, in its pivotal clinical trials, Lucentis® significantly improved vision in 29% to 40% of patients treated. Other currently available treatments have not been shown to restore a significant portion of lost visual acuity.

PF-655 Value proposition in Age-Related Macular Degeneration. Given the limitations of current treatments, we believe that there is a significant need for additional treatments to improve the rate of visual gain, and to permit less frequent intravitreal injections than the currently used regimen of one injection every four weeks for Lucentis® or six weeks for Macugen®. In addition, due to its different mechanism of action, PF-655 may allow potential combination therapy with current therapies and other therapies under investigation.

Current Phase II Clinical Trial — the MONET study. PF-655 is currently being studied in a Phase II open label multicenter study, the MONET study, for age-related macular degeneration comparing PF-655 versus Lucentis® in the treatment of subjects with choroidal neovascularization. This is a safety/efficacy study conducted by Pfizer in collaboration with Quark. Enrollment of patients was completed in August 2010 and we expect that interim results upon completion of dosing and a 3 months follow up period for part of the patients could be available by the end of 2010. Depending on the results of this study, Pfizer may initiate a dose-ranging Phase IIb clinical trial in age-related macular degeneration in 2011 or stop trials.

QPI-1002 in Clinical Phase II for Acute Kidney Injury and Delayed Graft Function

The Drug Candidate. QPI-1002 is a synthetic, chemically modified siRNA molecule designed to temporarily inhibit expression of the human gene p53, that we believe plays a significant role in ischemia reperfusion induced injuries of the kidney that lead to development of acute kidney injury and delayed graft function. QPI-1002 is being developed for the prevention and treatment of acute kidney injury in patients undergoing major cardiovascular surgery and for prevention of delayed graft function in kidney transplantation patients. We have granted to Novartis an option for an exclusive worldwide license to QPI-1002 and any potential future p53-directed siRNAs controlled by us, for any indication.

Preclinical results. We have conducted preclinical studies in rats and monkeys. Rats treated with a single bolus injection of QPI-1002 were significantly protected from ischemia/ reperfusion-induced acute kidney injury. In preclinical studies, p53-targeted siRNA was effective in protecting rat kidneys from acute kidney injury at doses 400-fold below the toxic dose. QPI-1002 was most potentially efficacious when administered within a well-determined time window of hours post injury, and significantly reduced the severity of acute kidney injury. QPI-1002 exhibited a favorable safety profile in rats and monkeys and persisted for a relatively short time in the blood and kidneys. In these studies, QPI-1002 accumulated rapidly and predominantly in the kidneys, specifically in proximal tubules, following intravenous administration, QPI-1002 was also found to be resistant to degradation in body fluids. In addition, the duration of the p53 inhibitory effect in the studies was brief in all tissues tested.

QPI-1002 in Acute Kidney Injury

Disease Background and Market Opportunity. Acute kidney injury is a syndrome characterized by a rapid decline of kidney function leading to death in a high percentage of cases. Acute kidney injury complicates approximately 5% of hospital admissions and up to 30% of admissions to intensive care units. During cardiovascular surgery, ischemic conditions caused by reduced blood flow to the kidneys and reperfusion upon removal of the patient from cardiopulmonary bypass and resumption of the natural blood flow can lead to induction of acute kidney injury. According to the Centers for Disease Control and Prevention (CDC) and the Society of Thoracic Surgeons, Adult Cardiac Surgery Database there are approximately 650,000 patient discharges following major adult cardiac surgery procedures each year in the United States. Among cardiac surgical patients who developed acute kidney injury severe enough to require dialysis post-operatively, reported mortality rates during the past decade have remained unacceptably high, in the range of 28% – 63%.

Limitations of Current Therapy. Currently, there are no approved drug therapies that effectively prevent or treat acute kidney injury. Generally, the goals of currently available treatments are to correct or treat the underlying condition of kidney failure and support patients with renal replacement, such as dialysis, until their kidneys have healed and can function properly. However, despite the use of aggressive dialysis regimens, the mortality rate, particularly in post surgery patients, remains high.

QPI-1002 Value proposition. We are developing QPI-1002 as a potential new therapy to prevent acute kidney injury, an unmet medical need. In cardiovascular surgery patients, acute kidney injury results from ischemia-reperfusion injury, leading to activation of p53 and subsequent induction of apoptosis (programmed cell death) in the kidney. By temporarily inhibiting the expression of p53, we believe QPI-1002 may afford kidney cells time to repair cellular damage and avoid induction of apoptosis, thus reducing the incidence of acute kidney injury and related mortality and morbidity in cardiovascular surgery patients.

Phase I Clinical Trial. We completed a Phase I, randomized, double-blind, dose escalation trial in 16 patients of the safety and pharmacokinetics of a single intravenous injection of QPI-1002 in patients undergoing major cardiovascular surgery. This was a first-in-man study testing the safety and pharmacokinetics of QPI-1002 following injection. This was also the first systemic administration of an siRNA in human subjects. Enrollment was completed in November 2009. No dose-limiting toxicities or other unacceptable adverse events were observed, and an independent data safety monitoring board responsible for reviewing unblinded safety data from this and the delayed graft function Phase I studies has recommended proceeding to Phase II investigations in both acute kidney injury and renal transplant populations, using the highest dose studied in Phase I (10.0 mg/kg).

Further development plan. A Phase II clinical trial in cardiovascular surgery patients is planned to start dosing during the first half of 2011. The trial is a prospective, randomized, double-blind, placebo-controlled Phase II trial of the safety and preliminary efficacy of a single intravenous injection of QPI-1002 in the prevention of acute kidney injury following major cardiovascular surgery performed under cardiopulmonary bypass, in patients at increased risk for acute kidney injury as determined from blood and urinary biomarkers. In the first part of the trial (60 patients) we intend to test the suitability of the biomarkers for accurately selecting patients at increased risk for acute kidney injury. At that time we also expect to a make decision about the remaining part of the Phase II trial and implications, if any, on the study design. If the biomarker feasibility part of the trial is successful, we intend to enroll an additional approximately 140 patients. We estimate that completion of dosing and first interpretable results will not occur before the end of 2012. If the results meet a set of specified success criteria, we could be eligible for exercise of the license option and payment of an option exercise fee from Novartis or if already exercised we would be eligible for an additional payment from Novartis.

QPI-1002 in Delayed Graft Function

Disease Background and Market Opportunity. QPI-1002, is being developed to prevent delayed graft function after deceased donor kidney transplantation. Delayed graft function can result from ischemia-reperfusion injury during the transplantation process, leading to activation of p53 and subsequent induction of apoptosis in the kidney. Ischemia reperfusion injury occurs frequently in patients receiving kidneys that have spent a long time outside a living human body, and is particularly common in kidneys from deceased donors. When kidneys are deprived of blood, the lack of oxygen causes damage that triggers inflammation when blood flow is restored. Delayed graft function is often defined as need for dialysis in the first week following transplantation and is associated with poorer long-term patient outcomes. It is also associated with increased incidence of acute rejection; increased hospital stays and increased consumption of peri-transplant resources. Kidneys are the most frequently transplanted organs. According to Datamonitor, approximately 43,000 renal transplants will be performed annually by 2015 in the major countries of the western world, representing an average annual growth rate of 4%. Datamonitor also predicts a significant increase in the use of organs from deceased donors. Based on Organ Procurement and Transplantation data, over 16,600 kidney transplantations were performed in the United States in 2007, 64% from deceased donors. Over 80,000 people are currently on the waiting list for kidney transplant in the United States. The UNOS Renal Transplant Registry database kidney waiting list is currently increasing at a rate of 20% per year and was predicted to include between 100,000 and 150,000 patients in 2010.

Limitations of Current Therapy. Currently, there are no approved drug therapies that effectively prevent delayed graft function. Delayed graft function affects 25% to 40% of deceased donor renal transplants. According a recent study each added day of delayed graft function is associated with a 2% increased risk of death in patients surviving at least 90 days after transplantation Currently, the main management strategy is to support the patient with dialysis and to monitor for rejection.

Value Proposition. We are developing QPI-1002 for the prevention of delayed graft function following deceased donor kidney transplantation. In animal studies, p53-targeted siRNAs were effective in protecting rat kidneys from injury due to both warm and cold ischemia that can occur during organ collection, preservation, transportation and implantation. The mechanism of action, involving temporarily inhibiting the expression of p53, is believed to afford kidney cells time to repair cellular damage and therefore avoid induction of apoptosis. Quark has been granted Orphan Drug status in the Unites States and in the European Union development of QPI-1002 for this indication.

Phase I/II clinical trial. QPI-1002 is currently being evaluated in a Phase I/II clinical study of deceased donor kidney transplantation patients. The Part A or Phase I dose escalation phase of this study was completed in November 2009. No dose-limiting toxicities were observed at the highest dose tested (10 mg/kg), which was 20-fold above the minimum effective dose in a rat model of kidney injury.

Phase II (Part B). We have initiated dosing in the Phase II part of this trial, Part B, that aims to demonstrate biological activity of QPI-1002. The study has an adaptive design with several interim analysis points. An Adaptive Design allows modifications to be made to trial protocol and/or statistical procedures of an ongoing clinical trial. The study protocol includes prospectively planned opportunities for modification of one or more specified aspects of the study design based on analysis of data (usually interim data) from subjects in the study. In this trial, significant interim analysis points are upon dosing 130 and 196 of the planned 326 patients to be enrolled in the study. Interim results will be analyzed by an independent board of experts, who will recommend the course of action at that point. We expect the 196 patient interim results, the first analysis point that we believe could yield statistically meaningful results, by early 2012. If the results meet the set of criteria specified in our agreement with Novartis for this milestone, we will be eligible for option exercise and payment of an option exercise fee from Novartis or if already exercised, we would be eligible for an additional payment from Novartis.

QPI-1007 in Non-arteritic Anterior Ischemic Optic Neuropathy

The Drug Candidate. QPI-1007 is being developed as a **neuroprotective agent** for the treatment of sudden vision loss associated with non-arteritic anterior ischemic optic neuropathy. QPI-1007 is a chemically modified siRNA and it is our first drug candidate based on novel siRNA structures developed internally by Quark. If effective in non-arteritic anterior ischemic optic neuropathy, we also intend to develop QPI-1007 for glaucoma, which shares common pathological features with non-arteritic anterior ischemic optic neuropathy.

QPI-1007 is designed to inhibit the expression of the pro-apoptotic gene, caspase 2, via the RNAi pathway. Apoptosis (programmed cell death) is thought to be the main cause of the death of retinal ganglion cells in non-arteritic anterior ischemic optic neuropathy and glaucoma. Caspase 2 is activated specifically in retinal ganglion cells in rat models of retinal ischemic injury. In preclinical studies, QPI-1007 was effective in preserving retinal ganglion cell integrity in three different disease models of retinal ganglion cell damage. Diseases involving retinal ganglion cell damage are common. Loss of retinal ganglion cells results in irreversible loss of vision in neurodegenerative diseases such as glaucoma, but they are also directly affected in acute diseases characterized by retinal ischemia.

Preclinical results. Retinal ganglion cell death in non-arteritic anterior ischemic optic neuropathy occurs primarily through apoptosis with caspases playing a major role. Caspase 2 has been shown to be activated specifically in retinal ganglion cells in rat models of retinal ischemic and retrograde trophic factor deprivation injury. Animal studies demonstrated (i) uptake of siRNA in retinal ganglion cells following intravitreal administration, (ii) RNAi-mediated mechanism of action of QPI-1007 in ocular tissues harvested after intravitreal administration and (iii) efficacy of QPI-1007 in three animal models. QPI-1007 exhibited a favorable safety profile in toxicity studies.

Disease Background and Market Opportunity. Non-arteritic anterior ischemic optic neuropathy is a stroke in the optic nerve, leading to the death of retinal ganglion cells that transmit light signals from the retina to the brain. Since they are unable to divide, loss of retinal ganglion cells results in irreversible loss of vision. Non-arteritic anterior ischemic optic neuropathy is a potentially visually devastating disease that occurs in the middle aged and the elderly and is the most common acute optic neuropathy in older persons. This condition usually begins suddenly with little warning in one eye, but frequently occurs in the other eye over time. Vision loss often includes both the loss of visual field and visual acuity, which can vary from being nearly normal to severely impaired. The unexpected sudden visual acuity and visual field loss makes non-arteritic anterior ischemic optic neuropathy a particularly overwhelming disease for many patients. It has been estimated that non-arteritic anterior ischemic optic neuropathy develops in approximately 8000 people each year in the United States. Bilateral visual loss may be seen in 12 – 19% of non-arteritic anterior ischemic optic neuropathy cases, and it usually occurs sequentially instead of simultaneously.

Limitations of Current Therapy. No effective treatment currently is available for non-arteritic anterior ischemic optic neuropathy since neither steroids nor surgical treatment have proven to be effective. There is no evidence that optic nerve decompression and anticyclones oxygen inhalation therapy are effective, and the preventive effect of aspirin in ocular crisis is not significant.

QPI-1007 Value Proposition. Based on our extensive preclinical studies, we believe that QPI-1007 may be an effective neuroprotective agent, with potential use in non-arteritic anterior ischemic optic neuropathy and also in major diseases involving retinal ganglion cell loss, including glaucoma.

Clinical development strategy. Our clinical development strategy includes:

- Initial development of QPI-1007 will be for neuroprotection of retinal ganglion cells following a single intravitreal administration in non-arteritic anterior ischemic optic neuropathy for human proof of concept for the drug as a neuroprotectant. The reason for using non-arteritic anterior ischemic optic neuropathy for proof of concept is four-fold. First, it is a devastating disorder for which there is no treatment. Second, because the disease develops over a relatively short period of time and usually shows little progress of visual loss beyond the first month or so, it is a suitable indication for testing a neuroprotective agent in a clinical trial to provide proof of principle for the drug. Third, the damage involves retinal ganglion cell loss, a preferential mechanism for potential neuroprotection. Fourth, non-arteritic anterior ischemic optic neuropathy mimics an accelerated development of

glaucoma, so that positive data in non-arteritic anterior ischemic optic neuropathy clinical trial would increase our confidence in QPI-1007 as a potential treatment of glaucoma as we decide whether to initiate clinical trials for glaucoma either directly or in partnership with a pharmaceutical company.

- Clinical development of QPI-1007 for additional devastating diseases such as neovascular glaucoma or closed angle glaucoma. These diseases often have acute onset, sometimes are clinical emergencies and are followed by a chronic phase. We believe administration of multiple doses QPI-1007 by intravitreal injection could be beneficial to treat such diseases.
- Development of alternative delivery means such as eye drops and/or slow release delivery and clinical development of the drug for the neuroprotective treatment of chronic glaucoma.

Phase I/IIa Clinical Trial. The U.S. IND for this indication was opened in December 2009. Dosing in the Phase I study was initiated during the first quarter of 2010. The study is divided into two Stratums. Stratum 1 represents the dose-escalation safety component of the study and is intended to enroll 4 cohorts of patients who are legally blind secondary to chronic optic nerve atrophy or retinal degeneration, each cohort sequentially receiving increasing doses of QPI-1007. Enrollment of Stratum 1 was completed in July 2010. Stratum 2 is designed to further evaluate safety and to determine potential clinical activity in non-arteritic anterior ischemic optic neuropathy patients as assessed through changes invisual acuity and visual field following drug administration compared to historical control. Stratum 2 is designed to enroll two dose cohorts of non-arteritic anterior ischemic optic neuropathy patients. We expect to complete dosing in Stratum 2 during the first half of 2011. Based on the results of the current trial, we intend to decide whether to initiate a Phase II clinical trial in acute glaucoma patients by multiple intravitreal injection dosing and/or a Phase II trial in non-arteritic anterior ischemic optic neuropathy patients.

QPI-1007 Additional indications — Glaucoma

Disease Background Glaucoma is a chronic progressive disease of the optic nerve with a gradual loss of retinal ganglion cells. According to Research to Prevent Blindness, glaucoma is the second most common cause of legal blindness in the United States. According to the National Eye Institute and Prevent Blindness America, glaucoma affects almost 2.3 million people in the United States over 40 years of age. Two million people are visually impaired by glaucoma in the United States. Untreated, glaucoma is the second leading cause of vision loss in the world. Vision loss from glaucoma is asymptomatic and irreversible. Clinically, glaucoma is an optic neuropathy that is characterized by progressive loss of retinal ganglion cells. It is often associated with elevated intraocular pressure and characterized by optic disc cupping — an anatomical change of the eye structure — and visual field loss. The central role of raised intraocular pressure is being questioned as many patients continue to demonstrate a disease progression despite control of intraocular pressure. Glaucoma is a collection of diseases and is a final common pathway of many disorders that affect the eye.

Open-angle Glaucoma is a chronic, bilateral, often asymmetrical disease in adults, featuring acquired loss of optic nerve fibers and abnormality in the visual field with an open anterior chamber angle and progressive death of retinal ganglion cells and usually elevated intraocular pressure.

Closed-angle Glaucoma is characterized by a painful red eye at presentation and represents a, a medical emergency. In closed-angle glaucoma the intraocular pressure rises rapidly and permanent vision loss from ocular ischemia may occur within hours. Closed angle glaucoma accounts for approximately 10% or less of glaucoma patients in the United States. Acute, symptomatic attacks comprise 20% to 40% of those with closed angle glaucoma.

Limitations of the current therapy. Anti-glaucoma medications have the largest share of the ophthalmic pharmaceutical market. Nevertheless, glaucoma is a disease that currently cannot be cured; instead, current therapies focus on managing it and slowing its progression. Lowering intraocular pressure is currently the only clinical therapy available in the treatment of glaucoma. Unfortunately, many patients continue to lose vision despite successful intraocular pressure control.

QPI-1007 Value proposition. We believe neuroprotective agents will be a key development in the ophthalmic pharmaceutical market in general and specifically the glaucoma market. The ability to protect retinal ganglion cells from cell death and thereby slow progression of glaucoma, we believe, will represent a major breakthrough in glaucoma treatment and provide opportunity for considerable growth in this segment of the market.

Preclinical pipeline and Other Research Programs

We are developing additional siRNA drug candidates, several of which have completed proof-of-concept in vivo animal testing. A subset of these is in lead candidate optimization stage. Additional siRNA molecules are currently in proof of concept studies in several indications. In these proof of concept studies we work with leading scientists and physicians at major universities and institutions. Our medical, regulatory and commercial teams evaluate the most suitable indications for future clinical trials and development. Our objective is to complete the preclinical studies necessary to support filing at least one IND application in 2012 for a molecule developed in these programs. We also have a research and development program in fibrotic disease in collaboration with, and fully funded by, Nitto Denko. The objective of this program also is to complete all studies necessary for filing an IND application within 2012. Our additional research programs are directed to developing our technology, in particular novel and proprietary siRNA structures and stabilization chemistry and proprietary specific cell type-targeted siRNA delivery systems.

We have three broad internal programs in which we design and develop siRNA molecules based on our internally proprietary siRNA structures to treat diseases that are unmet medical needs, each of which is briefly described below.

Neuroprotection and regeneration program. We include in this category our pipeline programs in diseases of the central nervous system (spinal cord and brain), and diseases of the eye and ear, in particular those diseases where neuroprotection and/or axon regeneration is important.

There are numerous severe diseases characterized by acute or progressive death of neurons. In many of the diseases this process begins with injury to the nerve, the long projection of the neuron that conducts electrical nerve impulses away from the neuron's cell body. Axon loss contributes to neurological symptoms in disorders as diverse as stroke, traumatic brain and spinal cord injury, peripheral neuropathies and chronic neurodegenerative diseases and glaucoma in which the optic nerve is affected. The overall objective of this program is to develop a drug that is able to protect against loss of neurological function and/or improve functional recovery.

We have demonstrated in preclinical models siRNA delivery to the target neurons in several disease conditions listed below and we are developing a novel non-invasive siRNA delivery to the back of the eye, inner ear and brain. Our primary siRNA drug candidate in this category is an siRNA molecule inhibiting the target gene called RhoA. RhoA is a small GTPase that controls cellular functions including motility, growth, differentiation, and apoptosis and is a key intracellular effector of inhibitory signals for outgrowth of neuronal processes. For this molecule we have shown proof of concept in spinal cord injury, demonstrating the capability of the RhoA siRNA molecule to improve neurologic functions and reduce neuropathic pain in a rat spinal cord injury model. We are now optimizing RhoA siRNA with the purpose of generating the lead siRNA for formal preclinical development. In line with our strategy of developing a drug candidate in several diseases based on common pathological mechanism. we are testing RhoA siRNA, in additional disease models including spinal cord injury, neuropathic pain due to peripheral nerve injury, optic nerve regeneration following crush injury and Meniere's disease. Other pipeline siRNAs are also being tested in these and other models involving neurological pathologies. We are exploring both invasive and non-invasive siRNA delivery to the back of the eye, inner ear and brain.

Respiratory and inflammatory disease program. We have established that our synthetic siRNAs can be delivered by inhalation efficiently to monkeys and rodent lungs. We have tested activity of several different siRNA molecules in rat and mouse models of lung injury and lung transplantation and have developed a combination of siRNAs inhibiting two targets called TLR2 and TLR 4. These genes encode proteins that are part of the family of toll-like receptors (TLRs), a class of proteins that play a key role in the innate immune system and have important function in inflammatory processes. We have demonstrated potential efficacy in preventing primary graft dysfunction in a mouse model of lung transplantation. Primary graft dysfunction is

caused by ischemia-reperfusion injury to the lung in the first 72 hours following lung transplantation and is a major cause of early morbidity, chronic graft rejection and mortality. In our preclinical studies our dual siRNA drug candidate effectively reduced infiltration of inflammatory cells, pulmonary edema and intra-graft hemorrhages and prevented impairment of pulmonary function when locally administered shortly after transplantation. We believe that our drug candidate also may be useful for treatment of acute lung injury in conditions other than lung transplantation since the pathological mechanisms of response to ischemic injury is similar.

Currently we are completing the proof of concept studies in the rodent model of lung transplantation. Due to the pivotal role of our selected targets in inflammatory processes induced in tissues in response to injury, we are also studying additional indications in which our dual siRNA drug candidate can be used.

Chronic disease by systemic administration. This category includes our development efforts to treat chronic kidney disease and cancer.

Cancer. Our programs in cancer include the following areas:

- *Targeted treatment of cancer either with a single siRNA agent or in combination with chemotherapeutic agents. Initial indication may be primary and/or metastatic tumors in the lung.* We have demonstrated the feasibility of delivery of siRNA to tumors growing in mouse lungs using inhaled synthetic stabilized siRNA. We demonstrated that treatment of cancer-bearing mice with siRNA targeting our proprietary target sensitized them to chemotherapy and resulted in reduction of tumor load in lungs compared to control. The lungs are a common site of involvement for primary malignancies and for metastases both from lung cancer and other cancers including breast, colon, and prostate cancer.
- *Development of targeted delivery.* We believe that targeted delivery to cancer cells is important in order to provide therapeutically relevant concentrations of anticancer agents at the site of action and spare normal tissues. We are working on the concept of using carriers for our siRNA drug candidates to transport the drug to the cancer cells. We have identified and generated a specific proprietary antibody targeting a receptor expressed on cancer cells for targeting our siRNA therapeutics.
- *Targeting tumor infiltrating cells that support tumor progression.* Tumor infiltrating cells support tumor growth by promoting, for example, angiogenesis or generation of new blood vessels to feed the tumor. These cells also may suppress antitumor immune responses. By targeting these tumor support mechanisms we believe we can suppress tumor growth.

Chronic kidney disease. We are currently performing siRNA drug delivery studies with the aim to deliver our siRNA drug candidates to the appropriate cells in the kidneys to treat chronic kidney disease. Chronic kidney disease is the gradual and usually permanent loss of kidney function over time. Chronic kidney disease is a major health problem in the United States. According to the National Kidney Foundation, 26 million adults in the United States have chronic kidney disease and millions of others are at increased risk. Currently there is no specific treatment shown to slow the progression of chronic kidney disease.

Fibrotic diseases. No effective treatment is available for most of the serious fibrotic diseases and our objective is to develop potential therapies within our fully-funded collaboration with Nitto Denko. Specifically, our goal is to develop one or more new siRNA drugs that may offer an effective treatment to fibrotic diseases. The collaboration utilizes our technology and intellectual property in RNAi to identify, select, optimize and develop a new drug based on a therapeutic concept and target gene identified by Nitto Denko and its collaborating scientists, which drug may potentially be combined with Nitto Denko's delivery technology. While the initial disease indication for development is yet to be determined by joint teams of Quark and Nitto Denko, potential diseases include liver fibrosis, lung fibrosis, bone marrow fibrosis and kidney fibrosis, all of which are major unmet medical needs. Quark successfully performed a feasibility study funded by Nitto Denko confirming the validity of the concept of treating fibrotic disease with an siRNA drug inhibiting a Nitto Denko target. The collaboration research and development was initiated in July 2010. Our objective is to file a first IND application based on our joint efforts in this collaboration in 2012.

We believe the Nitto Denko collaboration is a validation of our siRNA platform and intellectual property and may assist us in potentially securing additional platform collaboration agreements.

siRNA Technology Development. We have an ongoing program that aims to develop new siRNA-related technologies and to continuously improve our current technology platform and our intellectual property position in the RNAi intellectual property space. To date, we have filed six patent applications claiming novel structures and six patent applications claiming novel delivery methods. QPI-1007 is our first product in clinical trials that has an internally developed novel structure. This program has two arms:

- *Development of novel siRNA structures* that are free from third party intellectual property. We already have developed a number of structures and filed six patent applications to date. Based on our understanding of the siRNA mechanism, this program uses our siRNA chemistry expertise to identify critical positions on the siRNA sequence and critical patterns and to incorporate chemical modifications at such positions to create siRNA compounds with desirable properties to enhance activity, reduce unwanted or off-target effects, minimize unwanted immune response effects and increase the stability of our siRNA drug candidates.

Development of proprietary drug delivery methods. This program includes novel non-invasive delivery of siRNA to the back of the eye, inner ear and the brain, as well as novel methods of delivery to tumor cells.

Israeli National siRNA Project Consortium

In July 2010, the Israeli Chief Scientist and the head of the research and development national projects conditionally approved the establishment of a consortium headed by the wholly owned subsidiary of Quark, QBI Enterprises Ltd., or QBI. QBI, together with several leading members of the industry and prominent scientists in academia in Israel to develop novel generic technologies in the field of RNAi. The approval of a national project for siRNA is recognition by the government of Israel to financially support a project of national importance that can potentially create more jobs and general revenues for the state of Israel. In broad terms the generic technologies are planned to be developed in the following three categories:

- *Chemistry:* Technologies related to chemical modifications, the basic structure and manufacture of RNAi drug molecules. The objective is to allow development of more efficacious drugs with fewer side effects, with freedom to operate in the intellectual property space of RNAi and using efficient manufacturing processes.
- *Formulations:* Technologies related to the development of delivery methods and formulations that will facilitate delivery of the drug molecule to the specific organ and cells in the human body in order to treat the disease of interest.
- *Analytical Methods:* to facilitate discovery research as well as preclinical and clinical development.

In accordance with the rules of the Chief Scientist and as approved by our Board of Directors, the intellectual property and technologies developed by QBI in the Consortium shall remain with QBI at all times.

Our Strategy

Our goal is to discover, develop and commercialize novel therapeutics addressing significant unmet medical needs by using our novel targets to develop RNAi based drugs. To achieve this goal, we are pursuing the following strategies:

- Pursue clinical development of our drug candidates for the treatment of acute kidney injury and delayed graft function and for ocular neuroprotection;
- Maximize the value of our current collaborations, including our collaboration with Pfizer, our option and license agreements with Novartis and our drug discovery and development collaboration with Nitto Denko, and selectively enter into new collaborations for drug candidates that we develop and into new platform collaborations, while seeking to retain marketing rights in major markets when possible;
- Augment and develop our pipeline utilizing our know-how and intellectual property in siRNA and antibody drugs and their local or systemic delivery to specific target cells;

- Expeditiously introduce additional potential drug candidates to preclinical studies and clinical trials; and
- Continuously develop our siRNA technologies for generation of drug candidates with optimal characteristics and for enhancing our capabilities to deliver siRNA drugs to disease cells and tissues.
- Maintain and expand our patent portfolio in targets and technologies and further strengthen our intellectual property position in chemically modified siRNA.

Our License and Collaboration Agreements

Our License Agreement with Pfizer

In September 2006, we granted Pfizer an exclusive worldwide license to develop and commercialize drug candidates that inhibit our proprietary target gene RTP-801 through RNAi. The lead product candidate under the agreement is our drug candidate, PF-655, previously RTP801i-14, for treating wet age-related macular degeneration and diabetic macular edema, currently in a Phase II clinical trial. Under the agreement, Pfizer has the exclusive right to develop drugs for ophthalmic and non-ophthalmic indications.

Pursuant to the agreement, Pfizer is responsible for all future preclinical and clinical development costs of the licensed drug candidates, as well as all regulatory filings and approvals. The parties will share oversight of development through product-specific committees, but Pfizer has ultimate decision-making authority. During a transition period, we are continuing existing preclinical and clinical development of certain product candidates for ophthalmic and non-ophthalmic indications, with funding from Pfizer.

Pfizer will be responsible for manufacturing all product candidates for preclinical and clinical development and for commercial supply. If, however, Pfizer desires a second commercial manufacturing site, Pfizer will consider engaging us to manufacture products commercially, provided that we can competitively satisfy its manufacturing requirements. Pfizer has worldwide commercialization rights to all product candidates licensed under the agreement, but has agreed to appoint us its exclusive distributor in Israel of products developed under the agreement.

In connection with the agreement, through June 30, 2010 Pfizer had paid us an aggregate of $51.8 million in up-front fees, cost reimbursements and milestone payments. The agreement provides for up to $299 million in additional development and product approval milestone payments, assuming the development and approval in all major markets of a product for two ophthalmic indications and at least one non-ophthalmic indication. Pfizer is required to pay us royalties on any sales of licensed products and up to an additional $309 million of sales-based milestone payments.

Pfizer may terminate the agreement without cause at any time upon prior written notice. If not terminated, the agreement will remain in effect in each country until at least the later of the expiration of all relevant patents or ten years from the first commercial sale of the licensed product in each such country.

Our Option Agreement with Novartis

On August 17, 2010, we entered into an Option Agreement with Novartis International Pharmaceutical Limited (the "**Option Agreement**") under which we granted to Novartis an option to license QPI-1002, our siRNA therapeutic directed against the p53 gene. In the event that Novartis exercises this option, we will automatically grant to Novartis an exclusive, worldwide license to develop and commercialize QPI-1002 and any other p53-directed siRNAs controlled by us, pursuant to a separate, pre-negotiated license agreement (the "**License Agreement**"). During the term of the Option Agreement and License Agreement, we are prohibited from entering into a collaboration or license agreement with any third party in connection with the development or commercialization of any p53-directed siRNA.

Prior to exercise of the option, we will conduct at our expense Phase II trials on QPI-1002 for two indications: delayed graft function following renal transplantation and acute kidney injury following cardiovascular surgery. Novartis' option will expire on different dates depending on whether interim and/or final results of these trials meet pre-defined criteria. In the event that Novartis does not exercise the option prior to its expiration, the License Agreement will not come into effect, and in most cases we will be free to enter into agreements with third parties relating to QPI-1002 without further obligation to Novartis. However, under certain circumstances, Novartis will have a right of first negotiation in the event that we determine to license QPI-1002 or another p53-directed siRNA to a third party.

Following exercise of the option, Novartis will be solely responsible for all development, manufacturing, and commercialization of the licensed products, except that we will remain obliged to complete at our own expense the remaining portions, if any, of the Phase 2 trials for QPI-1002 that we initiated. Additionally, Quark will have the right to conduct a portion of the phase III clinical trials in Israel and to act as Novartis' distributor of products in Israel, in accordance with agreements that will be negotiated by the parties. Novartis' development and commercialization will be overseen by a joint steering committee with members appointed by both us and Novartis, but Novartis will have the deciding vote in the event of any disputes.

Upon execution of the Option Agreement, Novartis paid us a $10 million option grant fee. Assuming that the option is exercised, we could potentially receive up to $670 million in option exercise fees and development, product approval, and sales-based milestone payments, as well as royalties on net sales of licensed products.

Either we or Novartis may terminate the License Agreement in the event of an uncured material breach or insolvency of the other party, and Novartis may terminate the License Agreement without cause at any time upon prior written notice. Following termination of the License Agreement by Novartis for our material breach or insolvency, all licenses granted to Novartis will remain in effect, and Novartis' payment obligations will continue, subject to significant reduction in the event of certain material breaches. If not terminated, the License Agreement will remain in effect, for a particular licensed product in a given country, until the expiration of all relevant patents and regulatory exclusivity with respect to such licensed product and such country, or ten years from the first commercial sale of such licensed product in such country, whichever is later.

Our Research Collaborations with other Pharmaceutical Companies

Between 1995 and 2004 we entered into collaboration agreements with Mitsubishi Pharmaceutical Corporation, Sankyo Co., Ltd., Taisho Pharmaceutical Co., Ltd., AstraZeneca, Astellas Pharma Inc., and Shionogi & Co., Ltd. Under each collaboration, we applied our BiFAR™ platform to discover novel target genes potentially suitable for drug development in a disease field of interest to the collaborator. Each agreement required the collaborator to fund our research during an initial feasibility period and, if successful, a follow on research period of at least three years. Each collaboration agreement proceeded beyond the initial feasibility period, and in most the funded research stage was extended beyond the initial three year period. The funded research stage has now been completed under each of these collaborations.

In each case, our BiFAR™ discovery platform yielded target genes potentially suitable for development of therapies to treat the diseases of interest. Most of these collaborators selected a number of targets for further development, and we have granted exclusive licenses in specific disease areas requiring the collaborator to develop and commercialize products within specified time periods. We retain rights to non-selected or returned targets, as well as those that are not developed within the time limits. All of these collaborators are required to make payments to us upon the achievement of certain development milestones and to pay royalties on sales of any licensed products. In most cases these collaborators have granted us certain commercialization rights in North America and major European countries.

The Silence Therapeutics (formerly Atugen) Agreements

In December 2004, we entered into a collaboration agreement with Silence. Pursuant to this agreement, Silence granted us an exclusive worldwide license under its RNAi technology to develop and commercialize our RNAi product candidates based on our target gene RTP-801 for diseases other than cancer.

In September 2006, we amended the Silence collaboration agreement in connection with the Pfizer license agreement, under which we sublicensed to Pfizer our rights under the license from Silence. This amendment clarified payments among the parties, terminated a license we granted to Silence in 2004, and provided for a direct license from Silence to Pfizer in the event of termination of the Pfizer agreement. Under the amended Silence collaboration agreement, we pay Silence a percentage of our receipts from Pfizer under the Pfizer agreement, including milestone and royalty payments, but excluding payments specifically committed to cover research and development costs.

In April 2005, we entered into a second agreement with Silence, the option and license agreement, pursuant to which Silence granted us options to non-exclusive licenses to Silence's RNAi-related intellectual property to develop and commercialize siRNA product candidates based on five additional proprietary target genes, including p53. Within certain time limits, we may exercise our option with respect to a target gene once we obtain proof of concept, subject to payment of an option fee of either €50,000 or €100,000 and an exercise fee of either €250,000 or €500,000, depending in each case on whether the licensed patents have been issued. Our product candidates that are directed at the temporary inhibition of p53 are subject to this option and license agreement, and we exercised our option for these candidates. Through June 30, 2010, we have paid $6.6 million in option fee payments and development milestone payments to Silence. Under the agreement we are required to make further payments based on the progress of clinical trials and regulatory approval of licensed products in the United States, Japan and Europe. We are also required to pay royalties on sales of any licensed products for which we have exercised an option. If we elect to sublicense our rights under this Silence agreement we are required to pay, in lieu of any other payments, a fixed percentage of all payments we receive from the sublicensee. We have not granted any sublicenses at this time but in August 2010 we granted an option to Novartis to obtain a sublicense under our rights under this Silence agreement.

The Alnylam Agreements

In conjunction with the Pfizer agreement executed in September 2006, we entered into a set of license agreements with Alnylam Pharmaceuticals, Inc. Pursuant to these agreements, Alnylam granted us non-exclusive worldwide licenses under three families of patents and patent applications owned or controlled by Alnylam. Each agreement is specific to one of our proprietary targets p53 and RTP801 and to certain therapeutic fields, including all indications we contemplate for these target genes. We sublicensed our rights under the RTP801 Alnylam agreements to Pfizer in the September 2006 license agreement. We have not granted any sublicenses at this time under the p53 Alnylam agreement, but in August 2010 we granted an option to Novartis to obtain a sublicense under our rights under this agreement.

Pursuant to the terms of the license agreements, through June 30, 2010, we paid Alnylam fees totaling $1.6 million. The agreements provide for annual maintenance fees and up to $7.3 million in additional development and product approval milestone payments. We are also required to pay royalties on our sales or sales by our sublicensee. The royalty rates vary based on which patent families cover the products sold. Under the Pfizer agreement, Pfizer will partially reimburse our payments to Alnylam under the RTP-801 agreement.

Our Agreement with the University of Illinois at Chicago

In September 1999, the University of Illinois at Chicago granted us an exclusive worldwide license under its patents and patent applications related to the therapeutic inhibition of p53 and small molecule p53 inhibitors for all uses and indications.

Under the agreement, we are required to pay the University of Illinois at Chicago a royalty on sales of products incorporating intellectual property licensed from the University of Illinois at Chicago and a share of any payments we receive from sublicensees, including milestone and royalty payments. To date, we have not granted any sublicenses under our license from the University of Illinois at Chicago, but we have granted Novartis an option to obtain an exclusive sublicense through our option agreement with Novartis. The University of Illinois at Chicago may terminate the agreement if we do not meet a general diligence obligation to use commercially reasonable efforts to bring licensed products to market. Our license with respect to a particular licensed product will terminate for failure to meet specific development milestones by agreed-upon deadlines, which we may extend for a limited time period by paying an extension fee.

Our Agreement with Dharmacon

In January 2010, Dharmacon, Inc., a wholly owned subsidiary of Thermo Fisher Scientific Inc. ("Dharmacon"), granted us an exclusive worldwide license under its patents and patent applications related to specific siRNA molecule(s) and their use for the inhibition of p53 for all uses and indications in humans. Dharmacon has retained certain rights with respect to products covered by the licensed patents for uses outside our exclusive field. Under the agreement, we are required to pay certain milestone payments upon achievement of development milestones as well as royalties on future sales of licensed product. We are also required to pay a share of any payments we receive from sublicensees. To date, we have not granted any sublicenses under our license from the Dharmacon, but we have granted Novartis an option to obtain an exclusive sublicense through our option agreement with Novartis. Dharmacon may terminate the agreement if we do not use commercially reasonable efforts to develop and commercialize at least one licensed product.

Our Agreement with Nitto Denko

In June 2010, we entered into a license and collaboration agreement with Nitto Denko Corporation for the development of siRNA therapeutics for the treatment of fibrotic diseases, pursuant to which we granted a license to Nitto Denko to use our siRNA-related intellectual property to develop, manufacture, and commercialize siRNA therapeutics directed against specific target genes. We are obligated to perform certain initial research activities for development of these therapeutics through the submission of the first IND application in the United States. Nitto Denko will be responsible for the remaining development, and for the worldwide commercialization of any resulting product. During the term of the agreement, we are prohibited from researching, developing, or commercializing siRNA compounds directed against the target genes that are the subject of the collaboration.

Nitto Denko will provide financial support for our initial research, and we are entitled to receive royalties on future sales of licensed products, as well as certain additional payments that will be negotiated by the parties in the future.

Nitto Denko has the right to terminate the agreement at the end of certain stages of the initial research or at any time after the submission of the first IND application in the United States. Following such a termination of the Agreement, Nitto Denko may retain its license rights under our intellectual property by paying a lump sum payment, which payment will be in lieu of any further payments to us.

As of September 15, 2010, we have received research and development funding of $2.2 million under the above mentioned agreement with Nitto Denko.

Competition

The pharmaceutical and biotechnology industries are intensely competitive, and several of our product candidates, if commercialized, would compete with existing drugs and therapies. In addition, there are many pharmaceutical companies, biotechnology companies, public and private universities, government agencies and research organizations actively engaged in research and development of products targeting the same markets as our product candidates. Many of these organizations have substantially greater financial, technical, manufacturing and marketing resources than we have. Our ability to compete successfully will depend largely on our ability to:

- design and develop products that are superior to other products in the market;
- attract and retain qualified scientific, product development and commercial personnel;
- obtain patent and/or other proprietary protection for our product candidates and technologies;
- obtain required regulatory approvals; and
- successfully collaborate with pharmaceutical companies in the design, development and commercialization of new products.

We expect to compete on, among other things, product efficacy and safety, time to market, price, extent of adverse side effects and the basis of and convenience of treatment procedures. In order to compete successfully, we will need to identify and develop products and exploit these products commercially before others are able to develop competitive products.

If PF-655 is approved for wet age-related macular degeneration and/or for diabetic macular edema, we anticipate that it would compete with other marketed therapeutics, particularly vascular endothelial growth factor inhibitor drugs, primarily Genentech's Lucentis®, recently approved by the FDA for wet age-related macular degeneration and which has become the standard-of-care for the treatment of wet age-related macular degeneration and is under investigation for diabetic macular edema. PF-655 may also face competition from off-label use of Genentech's Avastin®, currently approved for the treatment of various cancers. Additional wet age-related macular degeneration therapeutics that are in development could also compete with PF-655. These include further anti-vascular endothelial growth factor angiogenesis inhibitors drugs. Among these, Alcon Research is evaluating Anacortave Acetate (Retaane), an antiangiogenic synthetic steroid drug. Allergan is developing its siRNA drug candidate AGN211745, Regeneron's intravitreal formulation of soluble decoy receptor vascular endothelial growth factor TRAP is in clinical trails, CoMentis, Inc. is developing ATG3, a topical eye drop therapy, TargeGen, Inc. is developing TG100801, a small molecule, topically applied multi-targeted kinase inhibitor, Alimera is developing pSivida's Iluvien® and intravitreal insert, to deliver fluocinolone acetonide, a corticosteroid, to the retina for up to three years as a treatment for diabetic macular edema and age-related macular degeneration.

QPI-1002. We are not aware of specific drugs marketed or in late stage development for the prevention of acute renal failure. However, in response to the unmet medical need, new products could be developed, or existing products could be used off-label, such as Nesiritide, a recombinant form of human B-type natriuretic peptide (hBNP) therapy approved for the treatment of acute congestive heart failure. A phase III trial is ongoing for the use of Nesiritide in thoracic aneurysm repair to prevent acute renal failure.

QPI-1007. We are not aware of specific drugs approved or marketed as an ocular neuroprotective agent. Recent significant advances in understanding the mechanisms for death of retinal neurons prompted renewed interest in development of neuroprotective agents, in particular focusing on neuroprotection for glaucoma. For example Danube Pharmaceuticals is developing a small molecule drug (DNB-001) as a topical eye drop and perhaps as an intravitreal implant. Pfizer Inc. and NicOx SA were developing PF-03187207 for glaucoma. Following completion of phase II clinical trials, NicOx reacquired the rights to the product from Pfizer.

Manufacturing and Supply

All of our current good manufacturing practices manufacturing is outsourced to third parties with oversight by our internal managers. We have limited non-current good manufacturing practices manufacturing capacity in-house. We rely on third-party manufacturers to produce sufficient quantities of material for use in preclinical studies and clinical trials, particularly synthetic siRNA. We intend to continue this practice for any future clinical trials and large-scale commercialization of any RNAi drug candidates for which we retain significant development and commercialization rights.

Avecia, Agilent Technologies and BioSpring are the primary contract manufacturers on which we rely for our supply of synthetic siRNA, and Pyramid Laboratories is our primary contract manufacturer for the supply of our final formulated products for human testing for clinical trials. All of our contract manufacturers are experienced in manufacturing synthetic siRNA under current good manufacturing practices. Over time, we intend to establish long term commercial supply agreements with our contract manufacturers. The commercial manufacturers will be selected based on results of demonstration syntheses, regulatory track record, commercial manufacturing and control experience, staff experience, training and skill, intellectual property considerations and price.

Pfizer will be responsible for manufacturing all product candidates for preclinical and clinical development and for commercial supply under our agreement.

Intellectual Property

We place considerable importance on obtaining patent protection for our technologies, product candidates and processes, maintaining our intellectual property estate and making every effort in ensuring that we and our sublicensees have the necessary freedom to operate in the siRNA space. Our policy is to seek patent protection for the inventions that we consider important to the development of our business. We intend to continue using our scientific expertise to develop new technologies, siRNA compounds, uses, methods and compositions and to pursue patent protection for these inventions to enhance our intellectual property position in the areas that are important to the development of our business.

We believe we have a solid intellectual property position relating to the development and commercialization of our product candidates. We seek patent protection in the United States, Europe and selected other jurisdictions for our product candidates, delivery methodologies and target genes.

As of August 2010, we own or control through exclusive licenses 63 issued and 2 allowed patents in the United States and elsewhere in the world and approximately 130 patent applications filed as PCT international patent applications, applications in the United States and in 29 other jurisdictions. In addition, we hold non-exclusive licenses to 32 patents that were granted in United States and in 9 other jurisdictions and to 58 patent applications that are pending in the United States and in 14 other jurisdictions (including patents and patent applications relating to RNAi technology that may be relevant to some of our Clinical Products).Our patents for PF-655 and QPI-1002 drug candidates (some of which were already granted and some if which are still pending) will expire in 2025 or later if the patent term is adjusted (in the United States) or extended in jurisdictions that grant patent term extension (such as the United States, Israel, Japan and others). Most of our siRNA technology patents and pending patent applications (if and when granted) will expire after 2020. Our patents for the QPI-1007 drug candidate (if and when granted) will expire in 2029 or later. The patents and pending patent applications, if and when granted, on siRNA technology in-licensed from Atugen AG (now Silence Therapeutics) will expire in 2023. The expiration dates discussed in this paragraph, relate to the United States and other major countries. The patent expiration dates provided do not take into consideration any patent term extensions that may be granted under the Patent Term Restoration Act in the United States or the Supplementary Protection Certificate in the European Union, or in other countries including Australia, Japan, Korea and Israel, which would extend patent term taking into consideration time lost during the regulatory approval process.

Even if we are granted patents by government authorities or obtain them through licensing, there can be no assurance that our patents will provide significant protection, competitive advantage or commercial benefit. The validity and enforceability of patents issued to pharmaceutical and biotechnology companies has proven highly uncertain. Legal considerations surrounding the validity of patents in the fields of pharmaceuticals and biotechnology are in transition, and we cannot assure you that the historical legal standards surrounding questions of validity will continue to be applied or that current defenses relating to issued patents in these fields will be sufficient in the future. In addition, we cannot assure you as to the degree and range of protections any of our patents, if issued, may afford us or whether patents will be issued. For example, patents which may issue to us may be subjected to further review by government authorities that may ultimately result in the reduction of their scope of protection, and pending patent applications may have their requested breadth of protection significantly limited before being issued, if issued at all. Further, since publication of discoveries in scientific or patent literature often lags behind actual discoveries and since publication of patent applications occur only after 18 months from the date of filing of the priority application, we cannot assure you that we were the first to invent subject matter covered by our pending patent applications, or that we were the first to file patent applications for these inventions.

Many pharmaceutical and biotechnology companies and university and research institutions have filed patent applications or have received patents in our areas of product development. Many of these entities' applications, patents and other intellectual property rights could limit the scope of our patent claims or even prevent us from obtaining patents or could call into question the validity of any of our patents, if issued, or could otherwise adversely affect our ability to develop, manufacture or commercialize our siRNA drug candidates. Many companies, universities and institutions have filed patent applications on particular aspects of RNAi technology. In the therapeutic field, there are different patent families concerning, among others, siRNAs of specific lengths and including in their structures specific modifications as well as delivery systems and uses of such siRNAs. There is considerable uncertainty in the RNAi-related intellectual property landscape stemming from the fact that the earliest filed patents are just being granted, and many are still in prosecution and the claims of these patent applications are still subject to change.

We have pending patent applications claiming all our siRNA clinical stage drug candidates as composition of matter and for methods of therapeutic use. We have licenses from Silence under their patent family related to specific modifications to general siRNA structures for the PF-655 and QPI-1002 drug candidates. Silence's Australian patent, European patent and US patent have been granted. In relation to our QPI-1002 drug candidate we have, in addition, exclusive licenses from Thermo Fisher Scientific (Dharmacon) and from the Board of Trustees of the University of Illinois (UIC) related to siRNA sequences and temporary inhibition of p53 gene respectively. One of the patents that relates to temporary inhibition of p53 gene and was licensed on exclusively basis from UIC's, namely European Patent EP1143943, was opposed by Eleos Inc (in September, 2008). The claims of the EP1143943 patent are directed to use of reversible p53 inhibitors for reducing or eliminating side effects associated with cancer therapy. As such the EP1143943 patent does not cover any of our current therapeutic indications of interest. Our response to Eleos' arguments and Auxliary request claims were filed at the EPO in June 2009. EPO issued summons to oral proceedings on December 8, 2010. Final resolution of the opposition proceedings will likely take a number of years. We cannot assure you the breadth of the claims that will remain in the EP1143943 patent or that the patent will not be revoked in its entirety.

Further, we are pursuing intellectual property rights related to RNAi technologies, including pending patent applications covering compositions of matter, methods of use, routes of delivery and novel modified siRNA structures.

We have also licensed from Alnylam certain patents in the siRNA space on a non-exclusive basis, including:

- International Patent Application WO 2001/36646 and corresponding patents and applications, known as the "Glover patent," which claim RNAi uses in mammalian cells;
- International Patent Application WO 2000/044895 and corresponding patents and applications, known as the "Kreutzer-Limmer patent," which claim therapeutic uses of double-stranded RNAi of specific lengths; and
- United States Patents 7056704 and 7078196, International Patent Application WO 2002/044321 and corresponding patents and applications, known as the "Tuschl patents," which cover certain structural features of siRNAs.

In addition, we routinely screen the patent literature and, when we believe appropriate, enter into discussions with academic and commercial entities that hold patents or are pursuing patent applications on technology or processes that we may wish to license in order to engage in some of our activities. However, we cannot assure you that these licenses, or any others that we may obtain for our product candidates, will be available on commercially reasonable terms, if at all, or that we will be able to develop alternative technologies if we cannot obtain licenses. Moreover, we are aware of a number of currently pending patent applications that, if granted, might arguably cover our activities or product candidates, depending on the scope of claims allowed, if any, including patent applications owned by Merck & Co., Inc.

To protect our rights in any of our patents, if issued, or to protect other proprietary rights, we may need to litigate against infringing third parties, or avail ourselves of the courts or participate in hearings to determine the scope and validity of these patents or other proprietary rights. These types of proceedings are often costly and time-consuming, and we cannot assure you that we will undertake to participate in such proceedings or that the deciding authorities will rule in our favor. An unfavorable decision could allow third parties to use our technology without being required to pay us licensing fees or may compel us to license needed technologies to avoid infringing third-party patent and proprietary rights, which may or may not be available. Although we believe that we would have valid defenses to allegations that our current product candidates (if and when they become commercial products), production methods of commercial products and commercial activities infringe the intellectual property rights of third parties, we cannot be certain that a third party will not challenge our position in the future. Also, even if some of these activities were covered by a third party's patent rights, we may be exempt from claims of infringement to the extent that our activities are pre-commercialization activities related to seeking regulatory approval for a product candidate. However, the precise scope of protection for pre-commercialization activities is uncertain in some jurisdictions and we

cannot assure you that any defense would be successful. Further, this defense is only available for pre-commercialization activities, and could not be used as a defense for sale and marketing of any of our product candidates. There has been, and we believe that there will continue to be, significant litigation in the biopharmaceutical and pharmaceutical industries regarding patent and other intellectual property rights.

Accordingly, third parties could bring legal actions against us claiming we infringe their patents or proprietary rights, and seek monetary damages and/or to enjoin clinical testing, manufacturing and marketing of one or more of our products. If we become involved in any such litigation, it could consume a substantial portion of our resources, and cause a significant diversion of effort by our technical and management personnel regardless of the outcome of the litigation. If any of these actions were successful, in addition to any potential liability for damages, we could be required to obtain a license to continue to manufacture or market the affected product, in which case we may be required to pay substantial royalties or grant cross-licenses to our patents. Moreover, there can be no assurance that any such license will be available on acceptable terms or at all. Ultimately, we could be prevented from commercializing a product, or forced to cease some aspect of our business operations as a result of claims of patent infringement or violation of intellectual property rights of others, which could have a material and adverse effect on our business, financial condition and operations. Further, the outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance, including the demeanor and credibility of witnesses and the identity of the adverse party. This can be especially true in intellectual property cases that may turn on the testimony of experts as to technical facts upon which experts may reasonably disagree.

While we pursue patent protection for our product candidates and for various aspects of our technologies when appropriate, we also rely on trade secrets, know-how and continuing technological advancement to develop and maintain our competitive position. To protect this competitive position, we regularly enter into confidentiality and proprietary information agreements with third parties, including employees, licensees, collaborators and suppliers. Our employment policy requires, where appropriate, each new employee to enter into an agreement that contains provisions generally prohibiting the disclosure of confidential information to anyone outside of Quark and providing that any invention conceived by an employee within the scope of his or her employment duties is our exclusive property. Furthermore, our know-how that is accessed from third parties through licenses, collaborations and research and development contracts and through our relationships with scientific consultants is generally protected through confidentiality agreements. We cannot, however, assure you that these protective arrangements will be honored by third parties, including employees, consultants, licensees, collaborators and suppliers, or that these arrangements will effectively protect our rights relating to unpatented proprietary information, trade secrets and know-how. In addition, we cannot assure you that other parties will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our proprietary information and technologies.

Government Regulation

The testing, manufacturing, and potential labeling, advertising, promotion, distribution, export and marketing of our product candidates are subject to extensive regulation by governmental authorities in the United States and in other countries. In the United States, the FDA, under the Federal Food, Drug and Cosmetic Act, or FDCA, and its implementing regulations, regulates pharmaceutical products. Failure to comply with applicable U.S. requirements may subject us to administrative or judicial sanctions, such as FDA refusal to approve pending applications for commercialization of products, withdrawal of approval for commercialized products, warning letters, untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, civil penalties and/or criminal prosecution.

Drug Approval Process

At the present time, we believe that our RNA interference-based product candidates will be regulated by the FDA as drugs under the jurisdiction of the FDA's Center for Drug Evaluation and Research. To obtain FDA approval of a product candidate, we must, among other things, submit data supporting safety and efficacy as well as detailed information on the manufacture and composition of the product candidate and proposed labeling. The testing and collection of data and the preparation of necessary applications are expensive and time-consuming. The FDA may not act quickly or favorably in reviewing these applications, and we may encounter significant difficulties or costs in our efforts to obtain FDA approvals that could delay or preclude us from marketing our products.

The steps required before a drug may be approved for marketing in the United States generally include:

- preclinical laboratory tests and animal tests conducted in accordance with Good Laboratory Practices;
- submission to the FDA of an Investigational New Drug Application, or IND, for human clinical testing, which must become effective before human clinical trials commence;
- adequate and well-controlled human clinical trials conducted in accordance with Good Clinical Practices to establish the safety and efficacy of the drug product for each indication for which approval is being sought;
- the submission to the FDA of a New Dug application, or NDA;
- satisfactory completion of an FDA inspection of the manufacturing facilities at which the product is made to assess compliance with current good manufacturing practices;
- potential FDA inspection of the nonclinical and clinical trial sites that generated the data in support of the NDA; and
- FDA review and approval of the NDA, often after conclusion of an Advisory Committee of external experts concerning the NDA.

Preclinical studies may include laboratory evaluations of the product chemistry, toxicity, and formulation, as well as animal studies to assess the potential safety and efficacy of the product candidate. The conduct of the preclinical tests and formulation of the compounds for testing must comply with federal regulations and requirements. The results of the preclinical studies, together with manufacturing information and analytical data, are submitted to the FDA as part of the IND, which must become effective before clinical trials may be commenced. The IND will become effective automatically 30 days after receipt by the FDA, unless the FDA raises concerns or questions about the conduct of the clinical trials as outlined in the IND prior to that time. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can proceed.

Clinical trials involve the administration of the product candidate to healthy volunteers or patients under the supervision of a qualified principal investigator. Clinical trials are conducted under protocols detailing the objectives of the study, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND. Clinical trials must be conducted in accordance with the FDA's good clinical practices requirements. Further, each clinical trial must be reviewed and approved by an independent institutional review board, or IRB, at or servicing each institution at which the clinical trial will be conducted. The IRB will consider, among other things, clinical trial design, patient informed consent, ethical factors, and the safety of human subjects. Continuing review and approval by the IRB is required at least annually. The FDA may order the partial, temporary or permanent discontinuation of a clinical trial at any time or impose other sanctions if it believes that the clinical trial is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial subjects. The IRB may also require the clinical trial at that site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions.

Clinical trials typically are conducted in three sequential phases prior to approval, but the phases may overlap. A fourth, or post-approval, phase may include additional clinical studies. These phases generally include the following:

- *Phase I.* Phase I clinical trials involve the initial introduction of the drug into human subjects, frequently healthy volunteers. These studies are designed to determine the metabolism and pharmacologic actions of the drug in humans, the adverse effects associated with increasing doses, and, if possible, to gain early evidence of effectiveness. In Phase I, the drug is usually tested for safety, including adverse effects, dosage tolerance, absorption, distribution, metabolism, excretion and pharmacodynamic properties.

- *Phase II*. Phase II clinical trials usually involve studies in a limited patient population to evaluate the clinical activity, including initial efficacy, of the drug for specific, targeted indications, to determine dosage tolerance and optimal dosage, and to identify possible adverse effects and safety risks. Although there are no statutory or regulatory definitions for Phase IIa and Phase IIb, Phase IIa is commonly used to describe a Phase II clinical trial evaluating clinical activity, including initial efficacy, adverse effects, and safety risks and Phase IIb is commonly used to describe a subsequent Phase II clinical trial that also evaluates dosage tolerance and optimal dosage.
- *Phase III*. If a compound is found to be potentially effective and to have an acceptable safety profile in Phase II (or sometimes Phase I) studies, the clinical trial program will be expanded to further demonstrate clinical efficacy, optimal dosage and safety within an expanded patient population at geographically dispersed clinical trial sites. Phase III studies usually include several hundred to several thousand patients. Generally, two adequate and well-controlled Phase III clinical trials are required by the FDA for approval, but for some product candidates, only one Phase III trial may be required.
- *Phase IV*. Phase IV clinical trials are studies required of or agreed to by a sponsor that are conducted after the FDA has approved a product for marketing. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication and to document a clinical benefit in the case of drugs approved under accelerated approval regulations. If the FDA approves a product while a company has ongoing clinical trials that were not necessary for approval, a company may be able to use the data from these clinical trials to meet all or part of any Phase IV clinical trial requirement. These clinical trials are often referred to as Phase III/IV post approval clinical trials. Failure to promptly conduct Phase IV clinical trials could result in withdrawal of approval for products approved under accelerated approval regulations.

The applicant must submit to the FDA the results of the preclinical and clinical trials, together with, among other things, detailed information on the manufacture and composition of the product candidate and proposed labeling, in the form of an NDA, including payment of a user fee. The FDA reviews all NDAs submitted before it accepts them for filing and may request additional information rather than accepting an NDA for filing. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. Under the goals and policies agreed to by the FDA under the Prescription Drug User Fee Act, or PDUFA, the FDA has ten months in which to complete its initial review of a standard NDA and respond to the applicant, and six months to complete its review of a priority NDA. The FDA does not always meet its PDUFA goal dates for standard and priority NDAs. The review process and the PDUFA goal date may be extended by three months if the FDA requests or the NDA sponsor otherwise provides additional information or clarification regarding information already provided in the submission within the last three months before the PDUFA goal date. If the FDA's evaluations of the NDA and the clinical and manufacturing procedures and facilities are favorable, the FDA will issue an approval letter. If there are certain issues or concerns that need to be addressed prior to the agency's ability to approve the NDA, the FDA's response to the applicant will take the form of a Complete Response letter, which contains the conditions that must be met in order to secure final approval of the NDA. If and when those conditions have been met to the FDA's satisfaction, the FDA will issue an approval letter, authorizing commercial marketing of the drug for certain indications. Sponsors that receive a complete response letter may submit to the FDA information that represents a response to the issues identified by the FDA. Such resubmissions are classified under PDUFA as either Class 1 or Class 2. The classification of a resubmission is based on the information submitted by an applicant in response to an action letter. Under the goals and policies agreed to by the FDA under PDUFA, the FDA has two months to review a Class 1 resubmission, and six months to review a Class 2 resubmission. The FDA may also refer an application to the appropriate advisory committee, typically a panel of clinicians, for review, evaluation and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendations of the advisory committee.

The FDA has various programs, including fast track, priority review, and accelerated approval (Subpart H), that are intended to facilitate the development and expedite the review of certain drugs, and/or provide for approval on the basis of surrogate endpoints. Generally, drugs that may be eligible for one or more of these programs are those for serious or life-threatening conditions, those with the potential to address unmet medical needs, and those that provide meaningful benefit over existing treatments. We cannot be sure that any of our drug candidates will qualify for any of these programs, or that, if a drug does qualify, that the review time will be shorter than a standard review.

After approval, certain changes to the approved product, such as adding new indications, making certain manufacturing changes, or making certain additional labeling claims, are subject to further FDA review and approval. Obtaining approval for a new indication generally requires that additional clinical studies be conducted. We cannot be sure that any additional approval for new indications for any product will be approved on a timely basis, or at all.

After a drug has been approved by the FDA for sale, the FDA may require that certain post-approval requirements be satisfied, including the conduct of additional clinical studies or compliance with a Risk Evaluation and Mitigation Strategy, or REMS. If such post-approval conditions are not satisfied, the FDA may withdraw its approval of the drug. In addition, holders of an approved NDA are required to:

- report certain adverse reactions to the FDA;
- submit annual and periodic reports summarizing product information and safety data;
- comply with certain requirements concerning advertising and promotional labeling for their products; and
- continue to have quality control and manufacturing procedures conform to current good manufacturing practices after approval.

The FDA periodically inspects the sponsor's records related to safety reporting and/or manufacturing facilities, including assessment of compliance with current good manufacturing practices. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain current good manufacturing practices compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved NDA, including withdrawal of the product from the market.

Other Regulatory Requirements

We are subject to a variety of foreign regulations governing clinical trials and the marketing of any potential products. Outside of the United States, our ability to market any products we may develop depends upon receiving a marketing authorization from the appropriate regulatory authorities. The requirements governing the conduct of clinical trials, marketing authorization, pricing and reimbursement vary widely from country to country. In any country, however, we will only be permitted to commercialize our products if the appropriate regulatory authority is satisfied that we have presented adequate evidence of safety, quality and efficacy. Whether or not FDA approval has been obtained, approval of a product by the comparable regulatory authorities of foreign countries must be obtained prior to the commencement of marketing of the product in those countries. The time needed to secure approval may be longer or shorter than that required for FDA approval. The regulatory approval and oversight process in other countries includes all of the risks associated with regulation by the FDA and certain state regulatory agencies as described above.

Employees

As of August 31, 2010, we had 100 employees, 72 of whom were engaged directly in research and development, 24 in general administrative and marketing activities, and 4 in regulatory, clinical affairs and quality activities. None of our employees is covered by a collective bargaining agreement, and we consider our relationship with our employees to be good.

Facilities

Our corporate headquarters are located in Fremont, California, where we occupy approximately 5,540 square feet of office space. The annual lease payments for our corporate headquarters building are approximately $95,000, and the fixed-term lease expires May 31, 2011. Our research and development facility is located in Ness Ziona, Israel, where we occupy approximately 23,110 square feet of office and laboratory space. The annual lease payments for this space are approximately $412,000. The fixed-term lease expired June 13, 2010, after which we may extend the term for an additional year. We also have a small office in Boulder, Colorado, where we occupy approximately 9,494 square feet. The annual lease payments are approximately $150,000 and the fixed terms lease expire on August 30, 2011.

Legal Proceedings

We are not currently involved in any material legal proceedings. However, litigation is common in the biopharmaceutical industry, and we may become involved in material legal proceedings in the future.

MANAGEMENT

Executive Officers and Directors

The following table sets forth information regarding our executive officers and directors, including their ages and positions, as of July 31, 2010:

Name	Age	Position(s)
Daniel Zurr, Ph.D.	66	President, Chief Executive Officer and Director
Sagit Reich	36	Chief Financial Officer
Rami Skaliter, Ph.D.	52	Chief Operating Officer
Shai S. Erlich, Ph.D.	44	Chief Medical Officer
Elena Feinstein, M.D., Ph.D.	51	Chief Scientific Officer
Juliana Friedmann, M.Sc.	58	Senior Vice President, Strategy & Planning
Smadar Shakked, CPA (Isr)	43	Senior Vice President of Business Development, Finance
Philip B. Simon, Chairman	57	Chairman of the Board of Directors
Philip M. Hahn	68	Director
Yoshitaka Kitao	59	Director
Toshihiro Toyoshima	48	Director
Robert Takeuchi	54	Director

Daniel Zurr, Ph.D. has served as our President, Chief Executive Officer and a member of our Board of Directors since he founded Quark in 1993. Prior to joining Quark, from 1984 to 1993, Dr. Zurr served as vice president for corporate business development for Israel Chemicals, Ltd. From 1980 to 1983, Dr. Zurr served as the director of licensing at G.D. Searle, a specialty pharmaceutical company. Dr. Zurr was the chief executive officer of Plantex-Ikapharm, a pharmaceutical company, from 1972 to 1980. Dr. Zurr obtained his M.Sc. at the Hebrew University of Jerusalem and his Ph.D. from Imperial College, University of London. Dr. Zurr's experience in prior pharmaceutical companies as well as his experience as a founder of Quark and his tenure with Quark brings industry experience, historic company knowledge as well as continuity to the Board of Directors.

Sagit Reich, CPA (Isr) has served as our Chief Financial Officer since she joined Quark in August 2010. Prior to joining Quark, Ms. Reich worked at the accountancy firm of Ernst &Young, Israel, as Senior manager of public and private companies specializing in the hi-tech industry from 2000 until July 2010. Ms. Reich is licensed Israeli CPA and holds a B.A. in Accounting and Psychology from Tel Aviv University.

Rami Skaliter, Ph.D. has served as our Chief Operating Officer since January 2007. Dr. Skaliter joined Quark in 1995. He has served in various executive positions, including Executive Vice President of Research & Development. Dr. Skaliter obtained his B.Sc. in Biology at the Ben-Gurion University of the Negev, and both his M.Sc. and Ph.D. in Biochemistry at the Weizmann Institute of Science. Between 1993 and 1995, Dr. Skaliter completed his post-doctoral fellowship at Stanford University.

Shai S. Erlich, Ph.D. has served as our Chief Medical Officer since January 2008.Dr. Erlich joined Quark in 1999. He has served in various executive positions, including Senior Vice President of Pharmaceutical Development, from May 2004 to January 2007, Senior Director of Portfolio Management from May 2002 to May 2004 and Director of Product Development Strategic Planning from April 2000 to May 2002. Dr. Erlich obtained his B.Sc. in the medical sciences at the Ben-Gurion University of the Negev, and holds an M.Sc. in Human Genetics in the field of Cancer Genetics from Tel Aviv University, and a Ph.D. in Gene Therapy from Mount Sinai School of Medicine.

Elena Feinstein, M.D., Ph.D. has served as our Chief Scientific Officer since June 2007. Dr. Feinstein joined Quark in 1998 and has served in various executive positions, including Senior Vice President of Research, Vice President of Technology Development and Vice President of Research from 2001 to 2002. Prior to joining Quark, Dr. Feinstein worked from 1985 until 1997 at the Weizmann Institute of Science as a doctoral fellow, post-doctoral fellow, scientist and senior staff scientist. Dr. Feinstein obtained her M.D. from the 2nd Moscow Medical Institute (Moscow Medical University) and completed her Ph.D. in Chemical Immunology at the Weizmann Institute of Science.

Juliana Friedmann, M.Sc. has served as our Senior Vice President of Strategy and Planning since 2007.Ms. Friedmann joined Quark in 1998. Ms. Friedmann served as our Vice President of Marketing and Business from February 1998 until May 2007. From 1983 until 1998, Ms. Friedmann worked at Dead Sea Bromine, part of Israel Chemicals Ltd., holding a number of progressively senior positions. Previously Ms. Friedmann worked as a patent attorney in Italy. Ms. Friedmann received both her B.S. in Chemical Engineering and her M.Sc. from Ben-Gurion University of the Negev.

Smadar Shakked, CPA (Isr) has served as our Senior Vice President of Business Development, Finance since August 2010. Ms. Shakked served as our Senior Vice President, Finance heading the finance department from 1997 until August 2010. Before joining Quark in 1997, Ms. Shakked worked at the accountancy firm of PWC Kesselman and Kesselman, Israel, as Senior Auditor of private and public companies (specializing in the hi-tech industry) trading in Israel and on NASDAQ, managing financial reports, initial public offerings, tax returns, economic consulting. Ms. Shakked holds a degree in Accounting and Economics from the Hebrew University of Jerusalem, Israel, and in 1994 obtained her Certified Public Accountant (CPA) license. Ms. Shakked also holds an Executive M.B.A. degree from Tel Aviv University.

Philip B. Simon, CPA has served as a member of our Board of Directors since August 1997. Mr. Simon is a partner of Howson & Simon LLP and the president of Lawrence Investments, LLC, one of Quark's major investors. Mr. Simon serves on the boards of directors of LeapFrog Enterprises, Inc., as well as on the boards of several private companies affiliated with Lawrence Investments, and formerly served on the board of directors of Spring Group plc, a publicly traded United Kingdom company. Mr. Simon joined Lawrence Investments in 1997. Mr. Simon has worked for 29 years as a partner at Howson & Simon. Mr. Simon holds an A.B. from Yale University and a J.D. from Stanford Law School. He is a member of the California Society of Certified Public Accountants. Mr. Simon's executive and finance experience and his tenure as a director of Quark brings executive and finance experience, historic company knowledge as well as continuity to the Board of Directors.

Philip M. Hahn has served as a member of our Board of Directors since August 2008. He retired from Pfizer, Inc. in 2008 as Vice President and Assistant General Counsel and worked continuously at Pfizer in various positions from 1978 to 2008. Mr. Hahn has extensive experience in structuring, negotiating and drafting major licenses and collaborations with U.S. pharmaceutical and biotech companies, as well as European and Japanese companies and broad experience in pharmaceutical and medical device businesses, including research, development, manufacturing and commercialization of products in U.S. and in foreign markets. Mr. Hahn is also knowledgeable in the areas of commercial, patent, anti-trust, bankruptcy, food and drug, and licensing law. Mr. Hahn is a member of the Bar of the City of New York, New York State Bar Association and has been a lecturer and panel expert at various programs conducted by the American Conference Institute and the New York City Bar Association. He is also a member of the Board and Executive Committee of the New York Region of the Anti-Defamation League. Mr. Hahn holds an A.B. *magna cum laude* from Brown University, an L.L.B. from Yale Law School and is fluent in French. Mr. Hahn's experience with other pharmaceutical and biotech companies in the development and commercialization of products in the U.S. and foreign markets brings industry experience and knowledge to the Board of Directors.

Yoshitaka Kitao has served as a member of our Board of Directors since June 2010.He has served as the Chief Executive Officer and Representative Director of SBI Holdings, Inc., SBI Investment Co., Ltd., SBI Capital Co., Ltd. and SBI Card Co., Ltd., and the Chief Executive Officer and Director of SBI VeriTrans Co., Ltd. and Morningstar Japan K.K. He is the Chairman and Director of SBI Mortgage Co., Ltd., Gomez Consulting Co., Ltd. and SBI Securities Co., Ltd. He is the Representative Director of Wall Street Journal Japan K.K. and Director of SBI Benefit Systems Co., Ltd. He was Executive Vice President and Chief Financial Officer of SOFTBANK Corp. from 1995 to 2000 and a Director of SOFTBANK Corp. from 2000 to 2005. He was the Chief Executive Officer and Representative Director of SOFTBANK Finance Corporation from 1999 to 2005. Previously, Mr. Kitao was also the Director of Nomura Wasserstein Perella Co., Ltd. from 1991 to 1992, Managing Director of Wasserstein Perella & Co. International, Limited from 1989 to 1992 and was the General Manager for the Nomura Securities Co., Ltd.'s Corporate Finance and Services Dept. III from 1992 to 1995. Mr. Kitao obtained degrees in Economics from Keio University in 1974 and Cambridge University in 1978. Mr. Kitao's experience brings management and finance knowledge and expertise to the Board of Directors.

Toshihiro Toyoshima has served as a member of our Board of Directors since August 2010. Mr. Toyoshima is Chief Executive Officer of Asuka DBJ Partners Co., Ltd., an investment management company with approximately $860 million in assets under management, formed in 2005 as a joint venture between Development Bank of Japan, Inc. and Asuka Asset Management Co., Ltd. Before joining Asuka DBJ Partners, Mr. Toyoshima was the director-general of the Planning Department for Investment Banking of the Development Bank of Japan from October 2004 after working as a senior specialist in charge of the private sector at the World Bank and working in the Planning Department and the Project Finance Department of the Development Bank of Japan. Mr. Toyoshima introduced the concept of project finance and DIP finance to Japan, and arranged a wide range of notable transactions such as Nakayama Joint Power Generation, Universal Studio Japan, Shinko Kobe Power Station of Kobe Steel, Ltd., Kazusa Clean System, and Fukuoka Clean Energy, each of which won the Asia Pacific Deal of the Year Award of the International Project Finance magazine. At the World Bank, Mr. Toyoshima was responsible for the privatization of state-owned enterprises in Botswana, Gambia, Lesotho, and Ethiopia. Mr. Toyoshima supervised the bidding for the privatization of Lesotho Electric Company, the foundation of Gambia Utility Regulatory Agency, and the coordination of the Asian-African trade and investment strategy (part of the Afro-Asian Conference). Since 2005, Mr. Toyoshima has engaged in equity investments of over $1 billion, focusing on unique growth opportunities, businesses with cross-border potentials and with disruptive concepts, part of which investments are listed on eight stock markets across five countries. Mr. Toyoshima holds a B.A. in law from the University of Tokyo and master's degrees in real estate and urban planning from the Massachusetts Institute of Technology. Mr. Toyoshima's investment and finance experience with respect to corporate development and growth opportunities brings investment and finance experience and knowledge to the Board of Directors.

Robert Takeuchi has served as a member of our Board of Directors since July 2010. He is currently a director of SBI Investment Co., Ltd. a private equity investment company. From 2004 until the present, Mr. Takeuchi served as president of RT Consulting, Inc. From 1996 to 2004 he was President of SOFTBANK Finance, America Corporation and from 1988 to 1996 he was a Director of CS First Boston. Mr. Takeuchi obtained a B.A. in Economics from the University of California, Los Angeles in 1979. Mr. Takeuchi's private equity investment and finance experience brings private equity and finance experience and knowledge to the Board of Directors.

Board Composition

Our board of directors currently consists of six members. Directors are elected for a one-year term each year at our annual meeting of shareholders. Under California law, our directors may be removed by the affirmative vote of the holders of a majority of our voting stock.

Director Independence

We are not listed as an issuer, nor have we applied to be listed as an issuer, on any U.S. national securities exchange or inter-dealer quotation system. For purposes of compliance with applicable securities rules, the independence standards required by the Nasdaq Stock Market, Inc. are described below.

Under Nasdaq's rules, an independent director is a person other than an executive officer or employee of the company or any other individual having a relationship which, in the opinion of the company's board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Under Nasdaq Rule 5605(a)(2), a director is not considered independent if: (i) the director was employed by the company or its subsidiaries or parent company during the preceding three years; (ii) the director received, or had a family member that received, compensation in excess of $120,000 from the company during any twelve month period during the preceding three years (other than for board or committee services, benefits under a retirement plan or payments to a family member who is a non-executive employee of the company); (iii) the director had a family member that was an executive officer of the company during the preceding three years; (iv) the director received from, either directly or through family members or entities under his control, or the company received from any such person, during the current and three preceding years, any property or services totaling the greater of $200,000 or 5% of the recipient's gross revenues for that year, unless the payments arose from investments in the company's securities or a non-discretionary charitable contribution matching program; (v) the director was employed, or has a family member who was employed, during the last three years, as an executive officer of another company where any of the issuer's executive

officers serve on the compensation committee; or (vi) the director is, or has a family member who is, a partner at the company's outside auditor or was a partner or employee of the company's outside auditor who worked on the company's audit at any time during the preceding three years. Ownership in a company does not by itself disqualify a director from being independent.

Under Nasdaq rules, at least a majority of the members of a listed company's board of directors must be independent. We have determined that are independent under Nasdaq rules and, as a result, we currently with the Nasdaq director independence standards.

Nasdaq requires listed companies to appoint an audit committee of at least three members and adopt an audit committee charter describing the committee's responsibilities. All directors on the audit committee must be independent, determined in accordance with the definition described above and under Rule 10A-3(b)(1) of the Exchange Act, subject to the exemptions set forth therein. Under an exemption to Rule 10A-3(b)(1), at least one member of Quark's audit committee must be independent during the 90-day period beginning on the effective date of the registration statement, and during the one-year period beginning on the effective date of the registration statement, a minority of the audit committee is exempt from the requirements of Rule 10A-3(b)(i). Quark's audit committee is currently comprised of independent directors and directors who do not meet the independence requirements under the Nasdaq rules and the Exchange Act.

Nasdaq does not require listed companies to have either a compensation committee or nominating and corporate governance committee. If the board chooses to constitute any such committee, however, the committee must be comprised of independent directors.

Board Committees

Audit Committee

Our audit committee consists of Messrs. Philip B. Simon and Robert Takeuchi. Mr. Simon serves as the chair of our audit committee. The functions of this committee include, among other things:

- reviewing and pre-approving the engagement of our independent auditors to perform audit services and any permissible non-audit services;
- evaluating the performance of our independent auditors and deciding whether to retain their services;
- reviewing our annual and quarterly financial statements and reports and discussing the statements and reports with our independent auditors and management;
- reviewing and approving related-party transactions;
- reviewing with our independent auditors and management significant issues that may arise regarding accounting principles and financial statement presentation, as well as matters concerning the scope, adequacy and effectiveness of our financial controls; and
- establishing procedures for the receipt, retention and treatment of complaints received by us regarding financial controls, accounting or auditing matters.

Our board of directors has determined that each of Messrs. qualifies as an audit committee financial expert within the meaning of SEC regulations. In making this determination, our board of directors has considered the nature and scope of each member's education and business experience. Our board of directors also has determined that meet the independence requirements of Rule 10A-3 of the Exchange Act, subject to the exemptions set forth therein. Both our independent registered public accounting firm and management are expected to periodically meet privately with our audit committee.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee consists of Messrs. . Mr. serves as the chair of our nominating and corporate governance committee. The functions of this committee include, among other things:

- developing and maintaining a current list of the functional needs and qualifications of members of our board of directors;

- evaluating director performance on our board of directors and its applicable committees and determining whether continued service on our board of directors is appropriate for such director;
- interviewing, evaluating, nominating and recommending individuals for membership on our board of directors;
- reviewing and recommending to our board of directors the compensation arrangements for our non-employee directors;
- evaluating nominations by shareholders of candidates for election to our board of directors;
- reviewing and reporting annually to our board of directors an assessment of the board's performance;
- reviewing and recommending to our board of directors any amendments to our corporate governance documents; and
- reviewing and recommending to our board of directors changes with respect to corporate governance issues, issues of broad social significance and our overall conduct as a responsible corporate citizen.

Compensation Committee

Our compensation committee consists of Messrs. . Mr. serves as the chair of our compensation committee. The functions of this committee include, among other things:

- determining the compensation and other terms of employment of our executive officers and senior management and reviewing and approving corporate performance goals and objectives relevant to such compensation;
- evaluating and recommending to our board of directors the equity incentive plans, compensation plans and similar programs advisable for us, as well as modification or termination of existing plans and programs; and
- reviewing and approving the terms of any employment agreements, severance arrangements, change-in-control protections and any other compensatory arrangements for our executive officers.

Each member of our compensation committee is a non-employee director as defined in Rule 16b-3 promulgated under the Securities Exchange Act of 1934, as amended, and is an outside director, as defined pursuant to Section 162(m) of the Internal Revenue Code of 1986, as amended.

COMPENSATION DISCUSSION AND ANALYSIS

Overview and Objectives

We believe that compensation of our executive officers should focus executive behavior on the achievement of short-term corporate objectives as well as long-term business targets and strategies. It is the responsibility of the independent members of our board of directors to administer our executive compensation practices to ensure that they are competitive and include incentives designed to appropriately motivate executive performance. Tying short and long-term cash and equity incentives to the achievement of clearly identifiable corporate objectives promotes the dual goals of attracting and retaining the best possible executive talent while creating value for our shareholders by aligning their interests with those of our executive officers. While we intend to create an executive compensation program that is competitive with comparable public biotechnology companies, we remain committed to establishing compensation plans that link a proper portion of executives' overall compensation to the attainment of our corporate performance milestones. We have chosen a mix of awards, both cash and equity, short-term and long-term, and seek to administer our compensation plans to strike a proper balance that advances company objectives, and fulfills our executives' and shareholders' expectations.

Our compensation programs for our named executive officers are designed to achieve the following objectives:

- attract and retain talented and experienced executives to make us competitive in the pharmaceutical and biotechnology industry, where there is significant competition for talented employees;
- motivate and reward executives whose knowledge, skills and performance significantly impact corporate results;
- reward the achievement of specifically measured corporate goals and the individual contributions to the achievement of such goals;
- incentivize management to achieve overall corporate objectives and to enhance shareholder value;
- encourage increased team-work among all disciplines within the company; and
- ensure fairness and promote stability among our executive management team.

As discussed in further detail below, our executive compensation program consists of the following three principal components:

Base Salary. Base salary for our executive officers is determined at commencement of employment and re-evaluated periodically. In determining whether to adjust an executive's base salary, our board of directors takes such factors as company performance in prior years, individual performance, general economic factors and compensation equity among our executive officers, into consideration.

Bonuses. During 2009 we did not have a bonus plan or management incentive plan in place to offer incentive compensation to executive management and other key employees. Decisions regarding bonus payments to our executive management and other key employees are made by majority approval of the independent members of our board of directors. Dr. Zurr, our President and Chief Executive Officer, makes recommendations regarding executive compensation, however, Dr. Zurr does not participate in discussions regarding his own compensation.

Stock Option Grants. Our executive officers receive stock option grants as long-term incentives to ensure a portion of compensation is linked to our long-term success.

Our board of directors does not have any formal policies for allocating compensation among salary, bonus awards and stock option grants.

Role of the Board of Directors in Setting Executive Compensation

As we did not have a Compensation Committee in place during our 2009 fiscal year, the independent members of our board of directors determined the salary, bonus awards and stock option grants for our executive officers. Dr. Zurr, our President and Chief Executive Officer, makes recommendations regarding executive compensation, however, Dr. Zurr does not participate in discussions regarding his own compensation. None of our other executive officers participate in discussions of our board of directors regarding executive compensation. Our board of directors has also delegated to Mr. Simon the authority to make compensation determinations, in consultation with Dr. Zurr, for executive officers other than the chief executive officer. Our board of directors has not historically engaged third-party consultants with respect to executive compensation matters, or relied on compensation data or surveys of peer companies. We do not believe that our compensation policies and practices, for either our executive or our non-executive employees, are reasonably likely to give rise to risks that would have a material adverse effect on us.

We discuss each of the primary elements of our executive compensation in greater detail below. While we have identified particular compensation objectives that each element of executive compensation serves, our compensation programs are designed to complement each other and collectively serve all of our executive compensation objectives described above.

Compensation Components

The components of our compensation program are as follows:

Annual Compensation

Base salary

The base salaries of all executive officers are reviewed periodically and adjusted to reflect individual roles and performance. We believe that a competitive base salary is a necessary element of any compensation program designed to attract and retain talented and experienced executives. We also believe that a periodic review of base salaries not only motivates and rewards executives for their overall performance, but creates a performance incentive going forward.

Bonuses

Our board of directors did not grant discretionary cash bonuses to our executive officers in 2009. In 2009, we did not have a bonus plan or management incentive compensation plan in place. Decisions regarding bonus payments, if any, to our executive management and other key employees are made by majority approval of our board of directors, except that Dr. Zurr does not participate in discussions regarding his own compensation.

Long-term Incentives

Our salary and bonus programs are intended to compensate our executive officers for short-term performance. We also use equity incentives to reward long-term performance and to help align the interests of our executive officers with those of our shareholders. We believe that long-term performance is achieved through an ownership culture that rewards such performance by our executive officers through the use of equity incentives. Our current long-term incentives consist solely of stock option grants under our 1997 Stock Plan, which was terminated in March 2007, and 2007 Equity Incentive Plan. We believe the grant of stock options is a valuable retention tool and the best approach to achieve our compensation goals with respect to long-term compensation, and option grants currently provide tax and other advantages to our employees relative to other forms of equity compensation. We typically make grants of stock options to our executive officers on a periodic, but not necessarily annual, basis. The date of grant and the fair market value of the award are based upon the date of the board meeting at which the grant is approved. We typically make an initial award of stock options to new employees and periodic awards tied to vesting in prior grants or changes in responsibilities.

Stock option awards provide our executive officers with the right to purchase shares of our common stock at a fixed exercise price typically for a period of up to ten years, subject to continued employment with our company. Stock options are earned on the basis of continued service to us and grants made to new

employees generally vest over four years, beginning with 25% vesting one year after the date of grant, then pro-rata vesting monthly thereafter. Since 2003, grants made to existing employees generally vest in equal monthly installments over four years. Our board of directors has the authority to determine the vesting schedule and may at times to adjust the vesting schedule for a particular award based on the individual employee's circumstances. Stock option awards granted to employees who are residents of Israel are made under a sub-plan of our 2007 Equity Incentive Plan. Awards to residents of Israel are granted in trust to a trustee for the benefit of the named employee for certain tax reasons described in further detail below under the heading "— Tax Considerations."

Our prior equity plan, the 1997 Stock Plan, was terminated in March 2007 when our board of directors adopted its replacement plan, the Quark Pharmaceuticals, Inc. 2007 Equity Incentive Plan. In May 2007, the plan was approved by our shareholders. The plan provides a mechanism to continue our practice of making equity awards to attract and retain talented employees. As of August 31, 2010, our board has approved option grants which are currently outstanding to purchase 2,543,873 shares of our common stock to certain of our employees, including our named executive officers. The plan is described in detail under "2007 Equity Incentive Plan" below. Our board is expected to continue to grant options to our employees to continue our philosophy of incentivizing long-term performance and aligning our executives' interests with that of our shareholders.

The exercise price of each stock option granted under our 2007 Equity Incentive Plan is not less than the fair market value of our common stock on the date of grant. The fair market value of our common stock for purposes of determining the exercise price of stock options has been determined by our board of directors based on a number of factors applicable to common stock of privately-held companies including, among others, the results of third-party independent valuation reports, the total company valuation implied by the most recent venture capital round of financing, the market value of similarly situated public companies, our current and anticipated future risks and opportunities, the rights and preferences of our preferred stock existing at the time and the lack of a liquid market for our capital stock.

Additionally, we made a personal loan to our Chief Executive Officer in the principal amount of $157,000 in January 2008. The loan was granted to Dr. Zurr in exchange for a promissory note to repay the principal and interest within a fixed term. Under the note, we agreed to forgive the debt upon an initial public offering or upon entering into a significant collaboration or joint venture agreement with a major United States or European based pharmaceutical company. The note was forgiven in full by the Company in September 2010 in recognition of Dr. Zurr's service to Quark.

Other Compensation

All of our executive officers are eligible for health benefits made generally available to other employees. We also have a 401(k) plan that all employees resident in the United States are eligible to participate in, including our named executive officers resident in the United States. The 401(k) plan is intended to qualify as a tax-qualified plan under Section 401(k) of the Internal Revenue Code. Employees contribute their own pre-tax compensation, as salary deductions. Contributions may be made up to plan limits, including "catch-up" contributions, subject to government limitations. The plan permits us to make discretionary matching contributions, subject to established limits. In 2009, we matched 100% of participant contributions up to four percent of eligible compensation. We plan to match participant contributions at this same level in 2010.

We do not believe it is necessary for the attraction or retention of management talent to provide the officers with a substantial amount of compensation in the form of perquisites. In 2009, we provided an allowance to our executive officers for automobile and gasoline expenses, cell phone use, internet and telephone connections for home office use and reimbursement for travel expenses and tax reimbursements. We believe these expenses are justified by the nature of our business operations. Our chief executive offices are located in Fremont, California, and our principal operations are located in Israel. Consistent with our past practices, we intend to continue to maintain our current benefits and perquisites for our executive officers. Our board of directors may revise, amend or add to our officers' executive benefits and perquisites if deemed advisable.

Tax Considerations

Grants made to Israeli employees are granted under Section 102(b)(2) of the Israel Income Tax Ordinance pursuant to which the options or the common stock issued upon their exercise must be allocated or issued to a trustee and be held in trust for two years following the date of grant of the options. Under Section 102, any tax payable by an employee from the grant or exercise of the options is deferred until the transfer of the options or ordinary shares by the trustee to the employee or upon the sale of the options or common stock and gains are subject to a capital gains tax of 25%.

Under ASC 718-10, we are required to estimate and record an expense for each award of equity compensation (including stock options) over the vesting period of the award. For the foreseeable future, our stock option program comprises the sole component of our long-term compensation program, and, therefore, we record the expense for each stock option award on an ongoing basis according to ASC 718-10. In the future we may consider the grant of restricted stock to our executive officers in lieu of stock option grants in light of the accounting impact of ASC 718-10 with respect to stock option grants and other considerations.

Section 162(m) of the Internal Revenue Code of 1986 limits our deduction for federal income tax purposes to not more than $1 million of compensation paid to certain executive officers in a calendar year. Compensation above $1 million may be deducted if it is "performance-based compensation." Our board of directors has not yet established a policy for determining which forms of incentive compensation awarded to our executive officers shall be designed to qualify as "performance-based compensation." To maintain flexibility in compensating our executive officers in a manner designed to promote our objectives, our board of directors has not adopted a policy that requires all compensation to be deductible. However, our board of directors intends to evaluate the effects of the compensation limits of Section 162(m) on any compensation it proposes to grant, and our board of directors intends to provide future compensation in a manner consistent with our best interests and those of our shareholders.

Summary Compensation Table

The following table provides information regarding the compensation earned during the year ended December 31, 2009 by our Chief Executive Officer, principal financial officers, and three other most highly compensated executive officers at December 31, 2009 whose combined salary and bonus awards exceeded $100,000 during 2009. We refer to our Chief Executive Officer, principal financial officers, and these other executive officers as our "named executive officers" elsewhere in this prospectus.

Summary Compensation Table for Fiscal Year 2009

Name and Principal Position	Salary ($)	Bonus ($)	Stock Awards ($)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)	Change in Pension Value and Nonqualified Deferred Compensation Earnings ($)	All Other Compensation ($)	Total ($)
Daniel Zurr Chief Executive Officer	$298,328	—	—	$ 93,091	—	—	$ 110,822[1]	$502,241
Sagit Reich Chief Financial Officer[2]	—	—	—	—	—	—	—	—
Smadar Samira Shakked Senior Vice President, Business Development, Finance	$136,484	—	—	$ 47,772	—	—	$ 60,519[3]	$244,775
Shai Erlich Chief Medical Officer	$251,333	—	—	$ 91,482	—	—	$ 40,191[4]	$383,006
Elena Feinstein, M.D., Ph.D. Chief Scientific Officer	$186,568	—	—	$ 67,060	—	—	$ 63,580[5]	$317,208
Rami Skaliter Chief Operating Officer	$203,913	—	—	$ 70,080	—	—	$ 77,593[6]	$351,586

The amounts listed above were paid to the named executive officers in Israeli shekels, and the amounts above were converted from Israeli shekels to U.S. dollars, based on the annual average exchange rate.

In August 2009, our Board of Directors adopted a cost reduction plan that includes reduction of a certain percentage of each employee's salary, up to 20%, beginning on September 1, 2009, for a period of 6 months. The aggregate reduction of compensation in that period amounted to $595,000 across all employees. The amounts listed on the table above reflect compensation of our named executive officers after giving effect to the reduction in salary during the period beginning on September 1, 2009 until December 31, 2009. Our board further approved that in certain future events, the employees will be reimbursed for such reductions, and in the six months ended June 30, 2010, and aggregate of $150,000 was paid to all employees whose salaries had been reduced.

(1) Amount includes $39,697 paid for health and welfare benefits for Dr. Zurr, including a manager's insurance policy, disability, and an education fund; $25,510 provided by the Company as a vehicle and gasoline allowance; $3,827 for internet and telephone reimbursement to maintain a home office; $24,405 for cell phone reimbursement; $2,493 for professional tax preparation fees; $14,890 for gross-up payments for vehicle taxes. The aggregate incremental cost of the perquisites set forth in the table above is computed based on the actual expenses incurred by the company.

(2) Sagit Reich, our Chief Financial Officer, joined Quark in August 2010 and her compensation is not reflected in the Summary Compensation Table for Fiscal Year 2009. See "Compensation Discussion and Analysis — Potential Payments Upon Termination or Change-in-Control" elsewhere in this prospectus which contains a description of our employment agreement with Ms. Reich.

(3) Amount includes $37,477 paid for health and welfare benefits for Ms. Shakked, including a manager's insurance policy, disability, and an education fund; $13,899 provided by the Company as a vehicle and

gasoline allowance; $498 for phone expenses; $8,645 for gross-up payments for vehicle taxes. The aggregate incremental cost of the perquisites set forth in the table above is computed based on the actual expenses incurred by the company.

(4) Amount includes $38,385 paid for health and welfare benefits for Dr. Erlich, including 401(k) retirement plan contribution, life and disability insurance, and $1,806 for cell phone reimbursement. The aggregate incremental cost of the perquisites set forth in the table above is computed based on the actual expenses incurred by the company.

(5) Amount includes $47,128 paid for health and welfare benefits for Ms. Feinstein, including a manager's insurance policy, disability, and an education fund; $10,322 provided by the Company as a vehicle and gasoline allowance; $28 for internet and telephone reimbursement to maintain a home office; $6,102 for gross up payments for vehicle taxes. The aggregate incremental cost of the perquisites set forth in the table above is computed based on the actual expenses incurred by the company.

(6) Amount includes $55,015 paid for health and welfare benefits for Dr. Skaliter, including a manager's insurance policy, disability, and an education fund; $9,976 provided by the Company as a vehicle and gasoline allowance; $6,037 for cell phone reimbursement; $717 for internet and telephone reimbursement to maintain a home office; $5,848 for gross up payments for vehicle taxes. The aggregate incremental cost of the perquisites set forth in the table above is computed based on the actual expenses incurred by the company.

Employment Agreements and Potential Payments Upon Termination or Change-in-Control

We have entered into employment agreements with each of our named executive officers, the general terms of which are described in greater detail below. The amount of compensation payable to each named executive officer at, following, or in connection with their termination or a change-in-control is described below and identified on the table set forth below. Regardless of the manner in which a named executive officer's employment terminates, the named executive officer is entitled to receive amounts accrued during their term of employment, including salary and unused vacation pay. Additionally, our Israeli executive officers are entitled to one month's salary for each year of employment or a portion thereof. The figures on the table set forth below assume that the termination occurred on December 31, 2009.

Name	Acceleration of Vesting of Stock Options[1]	Continuation of Benefits During Notice Period[2] ($)	Severance Payment[3] ($)	Total ($)
Daniel Zurr				
Termination without cause[4]			325,000	325,000
Change-in-Control				0
Sagit Reich				
Termination without cause[5]		74,172	—	74,172
Change-in-Control[6]			—	0
Smadar Samira Shakked				
Termination without cause[7]		70,337		70,337
Change-in-Control				0
Shai Erlich				
Termination without cause[8]		105,000		105,000
Change-in-Control				0
Elena Feinstein, M.D., Ph.D.				
Termination without cause[9]		90,286		90,286
Change-in-Control				0

Name	Acceleration of Vesting of Stock Options[1]	Continuation of Benefits During Notice Period[2] ($)	Severance Payment[3] ($)	Total ($)
Rami Skaliter				
Termination without cause[10]		99,020		99,020
Change-in-Control				0

In addition to the payments set forth in the table above, employees of the company's subsidiary are generally entitled to certain severance payments under the Israeli Severance Pay Law, which requires the company's subsidiary to deposit in a severance payment fund an amount equal to one month of salary for each year of employment or a portion thereof for each employee, based on the employee's most recent salary. Upon termination, the employees are entitled to severance in an amount equal to one month's salary for each year of employment or a portion thereof, which is payable by the company's subsidiary from the severance payment fund. This arrangement does not discriminate in scope, terms or operation in favor of executive officers of the company's subsidiary and is available generally to salaried employees of the company's subsidiary.

(1) The amount listed in this column represents the Black-Scholes conversion value of the acceleration of vesting of stock options based on the closing price of our common stock on December 31, 2009, which was $1.10.

(2) Represents the present value of the continuation of our current employee benefits, including medical, dental, disability and life insurance.

(3) The amounts listed in this column do not include the payment of accrued salary and vacation that would be due upon termination of employment.

(4) Under Dr. Zurr's employment agreement with the company and its subsidiary, Dr. Zurr is entitled to a severance payment equal to 12 months salary for termination without cause or for resignation for good reason, as set out in the employment agreement with Dr. Zurr.

(5) Under Ms. Reich's employment agreement with QBI, upon termination without cause, Ms. Reich is entitled to continuation of benefits during a 90-day notice period.

(6) Under Ms. Reich's employment agreement with QBI, Ms. Reich is entitled to accelerated vesting of 40% of the stock options held by Ms. Reich upon a "Qualified IPO" as defined in the company's articles of incorporation, as amended from tie to time. Upon a merger or acquisition of the company that results in a change in control, Ms. Reich is entitled to accelerated vesting of 100% vesting of stock options held by Ms. Reich. Ms. Reich joined QBI in August 2010 and was not entitled to any change of control benefits as of December 31, 2009.

(7) Under Ms. Shakked's employment agreement with QBI, Ms. Shakked is entitled to a notice period of 120 days prior to termination without cause with continuation of salary and benefits during that period.

(8) Under Dr. Erlich's employment agreement with QBI, Dr. Erlich is entitled to severance in the amount equal to four months salary for termination upon a termination without cause.

(9) Under Dr. Feinstein's employment agreement with QBI, Dr. Feinstein is entitled to a notice period of 120 days prior to termination without cause, with continuation of salary and benefits during that period.

(10) Under Dr. Skaliter's employment agreement with QBI, Dr. Skaliter is entitled to a notice period of 120 days prior to termination without cause, with continuation of salary and benefits during that period.

Daniel Zurr, Ph.D.

In January 2008, we entered into an employment agreement with Daniel Zurr, our President and Chief Executive Officer. The agreement provides that Dr. Zurr will receive an aggregate annual base salary of $325,000. In addition, our wholly owned subsidary, QBI, pays a certain percentage of Dr. Zurr's compensation towards a supplemental manager's insurance policy which would cover payments made towards severance, pension and disability and an education fund. Dr. Zurr is also entitled to the use of a company automobile and reimbursement for expenses associate with its use, including maintenance and all taxes. Dr. Zurr's employment may be terminated under the agreement, with or without cause, at any time. Upon a termination without cause or Dr. Zurr's resignation for good reason, including a material reduction in his compensation (except if the compensation of similarly situated officers is similarly reduced) or if the company materially

breaches its obligations under any agreement with Dr. Zurr and the company does not remedy such reduction or breach during a period following Dr. Zurr's notice to the Chairman of the Board, Dr. Zurr would be entitled to a lump sum payment equal to twelve months of his base salary as severance. Assuming that Dr. Zurr's employment was terminated other than for cause, or Dr. Zurr resigned for good reason, at December 31, 2009, he would have been entitled to a lump sum payment of $325,000.

Sagit Reich

In August 2010, QBI entered into an employment agreement with Sagit Reich, our Chief Financial Officer. Under the terms of the agreement, Ms. Reich is entitled to an annual salary of approximately $158,000. Ms. Reich was also awarded options to purchase an aggregate of 120,000 shares of our Common Stock under our 2007 Equity Incentive plan. 40% of the options granted to Ms. Reich shall vest on the company's "Qualified IPO," as such term is defined in the company's amended and restated articles of incorporation, as amended from time to time, and 100% of the options granted to Ms. Reich shall vest on a change-in-control of the company. In addition, upon a successful Qualified IPO, Ms. Reich is entitled to a bonus, at the discretion of the CEO of the Company. Any such bonus shall be paid within 60 days of the Qualified IPO, provided Ms. Reich's employment with the QBI has not terminated. QBI is obligated to pay a certain percentage of Ms. Reich's salary to a manager's insurance policy which would cover payments made towards severance, pension, disability and an education fund. Ms. Reich is also entitled to the use of a company automobile and reimbursement for expenses associated with its use and maintenance, including all taxes, and reimbursement for a company cell phone. Ms. Reich's employment is terminable without notice at any time for cause and otherwise terminable by either party upon 90 days advance written notice.

Smadar Samira Shakked

In September 1997, QBI entered into an employment agreement with Smadar Samira Shakked, our Senior Vice President of Business Development, Finance. Under the terms of the agreement, as last amended July 2008, Ms. Shakked is entitled to an annual salary of approximately $151,000. QBI is obligated to pay a certain percentage of Ms. Shakked's base salary to apply towards a manager's insurance policy which would cover payments made towards severance, pension, disability and an education fund. QBI's aggregate obligations total approximately 23% of Ms. Shakked's base salary. Ms. Shakked is also entitled to the use of a company automobile and reimbursement for expenses associated with its use and maintenance, including all taxes. Ms. Shakked's employment is terminable without notice at any time for cause and otherwise terminable by either party upon 120 days advance written notice. Assuming Ms. Shakked's employment was terminated, other than for cause, at December 31, 2009, she would have been entitled to $70,337.

Shai Erlich, Ph.D.

In March 2003, we entered into an employment agreement with Shai Erlich, Ph.D., our Chief Medical Officer. Under the agreement, as amended, Dr. Erlich is entitled to an annual salary of $315,000 and benefits made generally available to all employees, including medical, dental, life and accidental death and disability insurance, and participation in our 401(k) plan. Additionally, Dr. Erlich was granted an option to purchase 10,000 shares of our common stock under our 1997 Stock Plan to replace previous grants that had been made under our plan for Israeli employees. The agreement also provides Dr. Erlich with limited reimbursement of relocation expenses. Either party may terminate the agreement upon 60 days advance written notice for any reason, provided however, we may terminate the agreement for cause at any time. In the event we have cause to terminate Dr. Erlich's employment, subject to certain limitations, such termination would be effective upon notice to Dr. Erlich. Upon a termination without cause, Dr. Erlich would be entitled to severance equal to four months of his base salary. Assuming Dr. Erlich's employment was terminated, other than for cause, at December 31, 2009, he would have been entitled to $105,000.

Elena Feinstein, M.D., Ph.D.

In June 2007, QBI entered into an employment agreement with Elena Feinstein, M.D., Ph.D., our Chief Scientific Officer. The agreement, as amended, provides that Dr. Feinstein will receive an annual salary of $200,000. Pursuant to the agreement, QBI is obligated to establish and pay a certain percentage of Dr. Feinstein's salary to a manager's insurance policy which would cover payments made towards severance, pension, disability, and an education fund. QBI's aggregate obligations total approximately 23% of Dr. Feinstein's base salary. Dr. Feinstein is entitled to the use of a company automobile and reimbursement for expenses associated with its use and maintenance, including all taxes, and reimbursement for a company cell phone. Under the agreement, upon a termination without cause, Dr. Feinstein would be entitled to notice of 120 days, with continuation of salary and benefits during that period. Assuming Dr. Feinstein's employment was terminated, other than for cause, at December 31, 2009, she would have been entitled to $90,286.

Rami Skaliter, Ph.D.

In May 2007, QBI entered into an employment agreement with Rami Skaliter, Ph.D., our Chief Operating Officer. Under the terms of the agreement, as amended, Dr. Skaliter is entitled to an annual salary of approximately $220,000. Additionally, pursuant to the agreement, QBI is obligated to establish and pay a certain percentage of Dr. Skaliter's salary to a manager's insurance policy which would cover payments made towards severance, pension, disability, and an education fund. QBI's aggregate obligations total approximately 23% of Dr. Skaliter's base salary. Dr. Skaliter is entitled to the use of a company automobile and reimbursement for expenses associated with its use and maintenance, including all taxes, and reimbursement for a company cell phone. Upon a termination without cause, Dr. Skaliter would be entitled to notice of 120 days, with continuation of salary and benefits during that period. Assuming Dr. Skaliter's employment was terminated, other than for cause, at December 31, 2009, he would have been entitled to $99,020.

Grants of Plan-Based Awards

All stock options granted to our named executive officers are incentive stock options, to the extent permissible under the Internal Revenue Code of 1986, as amended. The exercise price per share of each stock option granted to our named executive officers prior to December 31, 2009 was not less than the fair market value of our common stock as determined by our board of directors on the date of the grant. Stock options are granted under our 2007 Equity Incentive Plan, 1997 Stock Plan or our 2003 Israeli Stock Option Plan.

In March 2009 and September 2009, our board of directors approved option grants to certain of our employees and executive officers, including our named executive officers. Dr. Zurr was granted an option to purchase 48,965 shares of our common stock; Ms. Samira Shakked was granted an option to purchase 40,000 shares of our common stock; Dr. Erlich was granted an option to purchase 45,000 shares of our common stock; Dr. Feinstein was granted an option to purchase 55,000 shares of our common stock; and Dr. Skaliter was granted an option to purchase 65,000 shares of our common stock. The exercise price of these options is $1.10 per share, which is equal to the fair market value per share of our common stock on the grant date for such options, as determined by our board of directors. These stock options vest in equal monthly installments over a period of four years beginning on the date of grant.

On March 30, 2009, our board of directors repriced the stock option grant to purchase 48,965 shares of our common stock held by Dr. Zurr from an exercise price of $2.75 per share to $1.10 per share, in order to reflect the fair market value of the company's common stock as of March 30, 2009 and as a means of incentivizing long-term performance. As a result of the repricing, using the Black-Scholes option valuation model, the incremental fair value of the repriced options, as of March 30, 2009, is equal to $0.38 per share of common stock underlying the stock option, for an aggregate amount of $18,607.

Grants of Plan-Based Awards

Name (a)	Grant Date (b)	Estimated Future Payouts Under Non-Equity Incentive Plan Awards			Estimated Future Payouts Under Equity Incentive Plan Awards			All Other Stock Awards: Number of Shares of Stock or Units (#) (i)	All Other Option Awards: Number of Securities Underlying Options (#) (j)	Exercise or Base Price of Option Awards ($/Sh) (k)	Grant Date Fair Value of Stock and Option Awards (l)
		Threshold ($) (c)	Target ($) (d)	Maximum ($) (e)	Threshold ($) (f)	Target ($) (g)	Maximum ($) (h)				
Daniel Zurr Chief Executive Officer	3/30/2009								48,965[1]	$ 1.10	$ 0.66
Smadar Samira	3/30/2009								15,000	$ 1.10	$ 0.66
Shakked Senior Vice President of Business Development, Finance	9/16/2009								25,000	$ 1.10	$ 0.68
Shai Erlich Chief Medical Officer	9/16/2009								45,000	$ 1.10	$ 0.68
Elena Feinstein, M.D., Ph.D. Chief Scientific Officer	9/16/2009								55,000	$ 1.10	$ 0.68
Rami Skaliter Chief Operating Officer	9/16/2009								65,000	$ 1.10	$ 0.68

(1) On March 30, 2009, our board of directors repriced the stock option grant to purchase 48,965 shares of our common stock held by Dr. Zurr. As a result of the repricing, the company measured the incremental fair value, as of March 30, 2009, as $0.38 per share of common stock underlying the stock option using the Black-Scholes option valuation model. On May 13, 2009, Daniel Zurr agreed to, and the company's board of directors approved, the cancellation of options to acquire 20,000 shares of common stock of the company as part of the investors' agreement.

Outstanding Equity Awards At December 31, 2009

The following table sets forth certain information regarding equity awards granted to our named executive officers outstanding as of December 31, 2009. The options generally have four-year vesting terms and expire 10 years after the date of grant.

	Option Awards				
Name (a)	**Number of Securities Underlying Unexercised Options (#) Exercisable (b)**	**Number of Securities Underlying Unexercised Options (#) Unexercisable (c)**	**Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#) (d)**	**Option Exercise Price ($) (e)**	**Option Expiration Date (f)**
Daniel Zurr	39,889(1)	9,076(1)	—	$ 1.10	3/30/19
Sagit Reich	—	—	—	—	—
Rami Skaliter	27,586(2)	—	—	5.80	12/04/13
	33,189 (1)	15,086(1)	—	1.10	03/19/17
	16,250 (3)	43,750(3)	—	1.10	12/29/18
	4,062 (4)	60,938(4)	—	1.10	09/16/19
Smadar Samira Shakked	6,896(2)	—	—	5.80	12/04/13
	23.706 (1)	10,776(1)	—	1.10	03/19/17
	8,125 (3)	21,875(3)	—	1.10	12/29/18
	2,812 (5)	12,188(5)		1.10	03/30/19
	1,562 (4)	23,438(4)		1.10	09/16/19
Shai Erlich	2,586(2)	—	—	5.80	05/16/13
	4,310 (2)	—	—	17.40	05/16/13
	12,068 (2)	—	—	5.80	12/29/15
	46,228 (1)	21,013	—	1.10	03/19/17
	18,958 (3)	51,042		1.10	12/29/18
	2,812 (4)	42,188		1.10	09/16/19
Elena Feinstein, M.D., Ph.D.	6,896(2)	—	—	5.80	12/04/13
	15,085 (6)	2,156	—	5.80	06/15/16
	30,818 (1)	14,009		1.10	03/19/17
	16,250 (3)	43,750		1.10	12/29/18
	3,437 (4)	51,563		1.10	09/16/19

(1) This option vests monthly over a 4-year period from March 19, 2007.

(2) This option is fully vested as of December 31, 2009.

(3) This option vests monthly over a 4-year period from November 12, 2008.

(4) This option vests monthly over a 4-year period from September 16, 2009.

(5) This option vests monthly over a 4-year period from March 30, 2009.

(6) This option vests monthly over a 4-year period from June 15, 2006.

Option Exercises and Stock Vested

None of our named executive officers exercised stock options or had shares of restricted stock vest in 2009.

Pension Benefits

None of our named executive officers participate in or have account balances in qualified or non-qualified defined benefit plans sponsored by us. Our board of directors may elect to adopt qualified or non-qualified benefit plans in the future if it determines that doing so is in the best interest of the company and our shareholders, but we do not currently maintain such plans.

Nonqualified Deferred Compensation

None of our named executive officers participate in or have account balances in nonqualified defined contribution plans or other nonqualified deferred compensation plans maintained by us. Our board of directors may elect to provide our officers and other employees with non-qualified defined contribution or other nonqualified deferred compensation benefits in the future if it determines that doing so is in the best interest of the company and our shareholders, but we do not currently maintain such plans.

Compensation of Non-Employee Directors

Director Compensation for Fiscal Year 2009

Name	Fees Earned or Paid in Cash ($)	Stock Awards ($)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)	Change in Pension Value and Nonqualified Deferred Compensation Earnings ($)	Total ($)
Philip B. Simon, Chairman	$ —		$ 29,020[1]			$ 29,020
Yoshitaka Kitao	$ —					$ —
Robert Takeuchi	$ —					
Philip M. Hahn	$ 7,959		$ 9,782[2]			$ 17,741
Toshihiro Toyoshima	$ —					
Trent Gunter	$ 14,192		$ 1,997[3]			$ 16,189
Peter Thompson	$ 18,442		$ 1,997[4]			$ 20,439
Kazyuki Matsui	$ 0		$ 1,789[5]			$ 1,789

Fees paid to non-employee directors as disclosed in the table above were pro rated amounts paid to Messrs. Hahn, Gunter and Thompson for their services as members of the Company's board of directors, based on an annual retainer of $20,000, plus amounts equal to $1,250 and $500 for every meeting of the Company's board of directors attended in person or by conference telephone, respectively.

(1) Grant date fair market value of stock option grant, computed in accordance with FASB ASC Topic 718, is equal to $0.66 per share; the exercise price is equal to $1.10 per share. The aggregate number of shares of common stock underlying option grants outstanding at the end of 2009 is equal to 164,482.

(2) Grant date fair market value of stock option grant, computed in accordance with FASB ASC Topic 718, is equal to $0.66 per share; the exercise price is equal to $1.10 per share. The aggregate number of shares of common stock underlying option grants outstanding at the end of 2009 is equal to 49,750.

(3) Grant date fair market value of stock option grant, computed in accordance with FASB ASC Topic 718, is equal to $0.66 per share; the exercise price is equal to $1.10 per share. The aggregate number of shares of common stock underlying option grants outstanding at the end of 2009 is equal to 20,000. Mr. Gunter no longer serves on the company's board of directors.

(4) Grant date fair market value of stock option grant, computed in accordance with FASB ASC Topic 718, is equal to $0.66 per share; the exercise price is equal to $1.10 per share. The aggregate number of stock option grants outstanding at the end of 2009 is equal to 20,000. Mr. Thompson no longer serves on the company's board of directors.

(5) Grant date fair market value of stock option grant, computed in accordance with FASB ASC Topic 718, is equal to $0.66 per share; the exercise price is equal to $1.10 per share. The aggregate number of stock option grants outstanding at the end of 2009 is equal to 20,000. Mr. Matsui no longer serves on the company's board of directors.

Prior to , our non-employee directors, other than those set forth in the table above who received fees earned in cash, were reimbursed for the actual costs of company-related travel only. No other compensation was paid to our outside directors in connection with their services.

In recognition of the added responsibility each of our non-employee directors will have as board members of a public company, in , 2010, our board of directors approved the following compensation arrangements for non-employee directors:

2007 Equity Incentive Plan

Our board of directors adopted the 2007 Equity Incentive Plan, or 2007 Plan, in March 2007 and our shareholders approved the 2007 Plan in May 2007. The 2007 Plan will terminate on March 1, 2017, unless sooner terminated by our board of directors.

Stock Awards.

The 2007 Plan provides for the grant of incentive stock options, nonstatutory stock options, restricted stock awards, restricted stock unit awards, stock appreciation rights, performance stock awards, performance cash awards, and other stock-based awards, collectively, the "stock awards".

Eligibility.

Incentive stock options may be granted only to our employees (including employees of our parent or subsidiary corporations). Our employees, directors, and consultants (and those of our affiliates) are eligible to receive all other types of stock awards under the 2007 Plan. Pursuant to Exhibit B to the 2007 Plan, referred to as the "Israeli sub-plan", stock awards may be granted to participants who are subject to taxation in the State of Israel in a manner that qualifies the awards for favorable tax treatment under Section 102 of the 1961 Israeli Income Tax Ordinance (New Version). The Israeli sub-plan modifies the terms of stock awards granted to Israeli participants only to the extent necessary to comply with the requirements set by Israeli law.

Share Reserve.

The number of shares of common stock reserved for issuance under the 2007 Plan is 3,271,022 (of which 727,149 were available as of August 31, 2010), with the number of shares to be automatically increased on January 1st of each year, from 2008 until (and including) 2017, by four percent (4%) of the total number of shares of common stock outstanding on December 31st of the preceding calendar year. Notwithstanding the foregoing, our board of directors may act prior to the first day of any calendar year, to provide that there shall be no increase in the share reserve for such calendar year or that the increase in the share reserve for such calendar year shall be a lesser number of shares of common stock than would otherwise automatically occur.

If stock awards granted under the 2007 Plan expire or otherwise terminate without being exercised in full or are settled in cash, the shares of common stock not acquired pursuant to those awards become available for subsequent issuance under the 2007 Plan. If any shares of common stock issued pursuant to a stock award are forfeited because of a failure to vest in those shares, the forfeited shares will become available for subsequent issuance under the 2007 Plan. In addition, shares withheld in satisfaction of applicable withholding taxes or reacquired as consideration for the exercise of an option will become available for subsequent issuance under the 2007 Plan.

Award Limits.

No employee may be granted stock awards whose value is determined by reference to an increase over an exercise or strike price of at least one hundred percent (100%) of the fair market value of the common stock on the date of grant (such as options and stock appreciation rights) covering more than 689,655 shares of common stock during any calendar year. In addition, no person may be granted performance stock awards covering more than 25,862 shares of common stock during any calendar year. Finally, no person may be granted performance cash awards with a value exceeding $1,000,000 during any calendar year.

Administration.

Subject to the provisions of the 2007 Plan, our board of directors has the authority to determine what type of stock award will be granted, the provisions of each stock award granted, the number of shares subject to each stock award, and the time or times a participant is permitted to receive stock pursuant to a stock award. Our board of directors has the power to accelerate the vesting and exercisability of a stock award. Our board of directors also has the authority to reprice any outstanding options and to cancel outstanding options and grant new stock awards in substitution therefore. As administrator of the 2007 Plan, our board of directors has the authority to construe and interpret its provisions. Our board of directors has the power to suspend or terminate the 2007 Plan at any time, to amend the 2007 Plan in any respect deemed necessary or advisable, to submit any amendment to the 2007 Plan for shareholder approval, to approve forms of award agreements for use under the 2007 Plan, to exercise such powers and to perform such acts that are not inconsistent with the provisions of the 2007 Plan, and to adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the 2007 Plan by employees, directors or consultants who are foreign nationals or employed outside the United States.

Our board of directors has the authority to delegate some or all of the administration of the 2007 Plan to a committee or committees composed of one or more members of our board. In the discretion of our board of directors, a committee may consist solely of two or more "non-employee directors" within the meaning of Rule 16b-3 of the Exchange Act, or solely of two or more "outside directors" within the meaning of Section 162(m) of the Code. The 2007 Plan also permits delegation of limited authority to one or more officers with respect to grants to employees other than officers of Quark. As used herein with respect to the administration of the 2007 Plan, "committee" refers to any committee appointed by our board, any subcommittee thereof, as well as our board of directors acting in its authority to administer the 2007 Plan.

Stock Options.

Options may be granted under the 2007 Plan pursuant to stock option agreements in the form adopted from time to time by the committee. The exercise price of options generally may not be less than 100% of the fair market value of the stock subject to the option on the date of grant. The exercise price may, at the discretion of the committee, be paid in (a) cash or check, (b) pursuant to a broker-assisted cashless exercise, (c) by delivery of other shares of common stock, (d) by a "net exercise" arrangement, or (e) in any other form of legal consideration acceptable to the committee. Options generally become exercisable in cumulative increments, or "vest," as based on the optionee's continued service with Quark or an affiliate. Shares covered by different options granted under the 2007 Plan may be subject to different vesting terms. The maximum term of options granted under the 2007 Plan is 10 years, subject to earlier expiration in the event of a termination of service. Options under the 2007 Plan generally expire three (3) months after termination of a participant's service, with such period extended in the case of death or disability to twelve (12) months and eighteen (18) months, respectively. Notwithstanding the foregoing, the post-termination exercise period will be extended in the event that exercise of the option following termination of service is prohibited by applicable securities laws. In no event, however, may an option be exercised beyond the expiration of its term. Except as otherwise provided in the applicable stock option agreement, options granted under the 2007 Plan are not transferable other than by will or the laws of descent and distribution.

Special Rules for Incentive Stock Options.

No incentive stock option may be granted under the 2007 Plan to any person who, at the time of the grant, owns (or is deemed to own) stock possessing more than 10% of the total combined voting power of Quark or its affiliates, unless the exercise price of such option is at least 110% of the fair market value of the common stock subject to the option on the date of grant and the term of the option does not exceed five years from the date of grant. The aggregate fair market value, determined on the date of grant, of the shares of common stock with respect to which incentive stock options are exercisable for the first time by a participant during any calendar year (under the 2007 Plan and any other equity plans of Quark and its affiliates) may not exceed $100,000 (any excess of such amount is treated as nonstatutory stock options). No more than 1,950,019 shares of common stock may be issued pursuant to the exercise of incentive stock options.

Restricted Stock Awards.

Restricted stock awards may be granted under the 2007 Plan pursuant to the form of restricted stock award agreement adopted from time to time by our committee. Restricted stock awards may be granted in consideration for services rendered to Quark or an affiliate or for any other form of legal consideration acceptable to the committee. Restricted stock awards may be subject to vesting in accordance with a schedule to be determined by the committee. Upon termination of a participant's service, any or all of the unvested shares of common stock subject to the restricted stock award may be forfeited by the participant and reacquired by Quark, as provided under the terms of the applicable award agreement. Rights to acquire shares under a restricted stock award agreement generally are not transferable, except as expressly permitted by the committee.

Restricted Stock Unit Awards.

Restricted stock unit awards may be granted under the 2007 Plan pursuant to the form of restricted stock unit award agreement adopted from time to time by the committee. At the time of grant, the committee will determine the consideration, if any, to be paid by the participant upon delivery of each share of common stock subject to the restricted stock unit award. The consideration to be paid (if any) by the participant for each share of common stock subject to a restricted stock unit award may be paid in services rendered to Quark or an affiliate or any other form of legal consideration as determined by the committee. Restricted stock award units may be subject to vesting pursuant to a schedule determined by the committee. Vested units may be settled by the delivery of shares of common stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the committee. The committee may also impose restrictions or conditions that delay the delivery of the shares of common stock (or their cash equivalent) subject to a restricted stock unit award to a time after vesting. Upon the termination of a participant's service, the unvested portion of the restricted stock unit award will be forfeited by the participant and reacquired by Quark unless otherwise provided in the restricted stock unit award agreement. Dividend equivalents may be credited in respect of shares of common stock covered by a restricted stock unit award, as determined by the committee and contained in the award agreement. Such dividend equivalents may be converted into additional shares of common stock covered by the restricted stock unit award in such manner as determined by the committee. Any additional shares covered by the restricted stock unit award credited by reason of such dividend equivalents will be subject to all the terms and conditions of the underlying restricted stock unit award agreement to which they relate.

Stock Appreciation Rights.

Stock appreciation rights may be granted under the 2007 Plan pursuant to the form of stock appreciation rights agreement adopted from time to time by the committee. Stock appreciation rights may be granted as stand-alone stock awards or in tandem with other stock awards. Each stock appreciation right will be denominated in shares of common stock equivalents. The strike price of each stock appreciation right will generally not be less than one hundred percent (100%) of the fair market value of the common stock equivalents subject to the stock appreciation right on the date of grant. The appreciation distribution payable on the exercise of a stock appreciation right will be not greater than an amount equal to the excess of (a) the aggregate fair market value (on the date of the exercise of the stock appreciation right) of a number of shares of common stock equal to the number of common stock equivalents in which the participant is vested under such stock appreciation right, and with respect to which the participant is exercising the stock appreciation right on such date, over (b) the strike price that will be determined by our board of directors at the time of grant of the stock appreciation right. Stock appreciation rights will be subject to vesting on such schedules as determined by the committee. The appreciation distribution may be paid in common stock, in cash, in any combination of the two or in any other form of consideration, as determined by the committee. The maximum term of stock appreciation rights granted under the 2007 Plan is 10 years, subject to earlier expiration in the event of a termination of service. Stock appreciation rights granted under the 2007 Plan generally expire three (3) months after termination of a participant's service.

Performance Stock Awards.

A performance stock award is a stock award that may be granted, may vest, or may be exercised based upon the attainment during a performance period of certain performance goals. The performance goals may be set in respect of any one or more of the following criteria: (i) earnings per share; (ii) earnings before interest, taxes and depreciation; (iii) earnings before interest, taxes, depreciation and amortization; (iv) total shareholder return; (v) return on equity; (vi) return on assets, investment, or capital employed; (vii) operating margin; (viii) gross margin; (ix) operating income; (x) net income (before or after taxes); (xi) net operating income; (xii) net operating income after tax; (xiii) pre-tax profit; (xiv) operating cash flow; (xv) sales or revenue targets; (xvi) increases in revenue or product revenue; (xvii) expenses and cost reduction goals; (xviii) improvement in or attainment of working capital levels; (xix) economic value added (or an equivalent metric); (xx) market share; (xxi) cash flow; (xxii) cash flow per share; (xxiii) share price performance; (xxiv) debt reduction; (xxv) implementation or completion of projects or processes; (xxvi) customer satisfaction; (xxvii) shareholders' equity; and (xxviii) to the extent that an Award is not intended to comply with Section 162(m) of the Code, other measures of performance selected by the committee. Performance goals may be based on a company-wide basis, with respect to one or more business units, divisions, affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. At the time of the grant of any performance award, the committee is authorized to determine whether, when calculating the attainment of performance goals (i) to exclude restructuring and/or other nonrecurring charges; (ii) to exclude exchange rate effects, as applicable, for non-U.S. dollar denominated net sales and operating earnings; (iii) to exclude the effects of changes to generally accepted accounting standards required by the Financial Accounting Standards Board; (iv) to exclude the effects of any statutory adjustments to corporate tax rates; and (v) to exclude the effects of any "extraordinary items" as determined under generally accepted accounting principles. In addition, the committee retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of performance goals. The maximum number of shares that may be granted to any participant in a calendar year is 75,000. A performance stock award may, but need not, require the completion of a specified period of continuous service. The length of any performance period, the performance goals to be achieved during the performance period, and the measure of whether and to what degree such performance goals have been attained will be determined by the committee. In addition, to the extent permitted by applicable law and the applicable award agreement, the committee may determine that cash may be used in payment of performance stock awards.

Performance Cash Awards.

A performance cash award is a cash award that may be granted upon the attainment during a performance period of certain performance goals (as described above). A performance cash award may also require the completion of a specified period of continuous service. The length of any performance period, the performance goals to be achieved during the performance period, and the measure of whether and to what degree such performance goals have been attained will be conclusively determined by the committee in its sole discretion. The maximum amount that may be granted to any participant in a calendar year is $1,000,000. The committee may provide for or may permit a participant to elect for, the payment of any performance cash award to be deferred to a specified date or event. The committee may specify the form of payment of performance cash awards, which may be cash or other property. In addition, the committee may determine that common stock authorized under the 2007 Plan may be used in payment of performance cash awards.

Other Stock Awards.

The committee may grant other incentive awards based in whole or in part by reference to the value of Quark's common stock. Subject to the provisions of the 2007 Plan, the committee has the authority to determine the persons to whom and the dates on which such other stock awards will be granted, the number of shares of common stock (or cash equivalents) to be subject to each award, and other terms and conditions of such awards. Such awards may be granted either alone or in addition to other stock awards granted under the 2007 Plan.

Tax Withholding.

The committee may require a participant to satisfy any federal, state, local, or foreign tax withholding obligation relating to a stock award by (a) causing the participant to tender a cash payment; (b) withholding shares of common stock from the shares of common stock issued or otherwise issuable to the participant in connection with the award; (iii) withholding cash from an award settled in cash or other payments made to a participant; or (iv) by such other method as may be set forth in the award agreement.

Changes to Capital Structure.

In the event any change is made to our common stock without the receipt of consideration, whether through merger, consolidation, reorganization, recapitalization, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or otherwise, our board of directors will appropriately adjust: (a) the class(es) and maximum number of securities subject to the 2007 Plan, (b) the class(es) and maximum number of securities that may be issued pursuant to the exercise of incentive stock options, (c) the class(es) and maximum number of securities (or amount of cash consideration) that may be awarded to any person pursuant to performance stock awards and other stock-based awards intended to satisfy the requirements of Section 162(m) of the Code (such as options and stock appreciation rights), and (d) the class(es) and number of securities and price per share of stock subject to outstanding stock awards. Our board of directors will make such adjustments, and its determination will be final, binding and conclusive.

Corporate Transactions; Changes in Control.

In the event of certain significant corporate transactions, outstanding stock awards under the 2007 Plan may be assumed, continued, or substituted by any surviving corporation. If the surviving corporation does not assume, continue, or substitute such stock awards, then (a) with respect to any such stock awards that are held by individuals performing services for Quark or its affiliates at the effective time of the transaction, the vesting and exercisability provisions of such stock awards will be accelerated in full and such stock awards will be terminated if not exercised prior to the effective date of the corporate transaction, and (b) all other outstanding stock awards will be terminated if not exercised prior to the effective date of the corporate transaction. A stock award may be subject to additional acceleration of vesting and exercisability as may be provided in the stock award agreement for such stock award or as may be provided in any other written agreement between Quark or any affiliate and the participant. The acceleration of stock awards in connection with significant corporate transactions and changes in control may be viewed as an anti-takeover provision, which may have the effect of discouraging a proposal to acquire or otherwise obtain control of Quark.

Duration, Termination, and Amendment.

Our board of directors may suspend or terminate the 2007 Plan at any time. The 2007 Plan is scheduled to terminate immediately prior to the 10th anniversary of the date it was adopted by our board of directors. No rights may be granted under the 2007 Plan while the 2007 Plan is suspended or after it is terminated. Our board of directors may amend or modify the 2007 Plan at any time, subject to any shareholder approval required by applicable law or regulation.

2010 Employee Stock Purchase Plan

In , our board of directors adopted our 2010 Employee Stock Purchase Plan (or ESPP) and our shareholders approved the ESPP in . The ESPP will become effective upon completion of this offering.

Share Reserve. The ESPP authorizes the issuance of shares of common stock pursuant to purchase rights to be granted to our employees or the employees of any of our parent or subsidiary companies designated by our board of directors to participate in the ESPP. The number of shares of common stock available for issuance will automatically increase on January 1st of each year commencing in and ending on (and including) January in an amount equal to shares of common stock. Notwithstanding the foregoing, our board of directors may act prior to the first day of any calendar year, to provide that there shall be no increase in the share reserve for such calendar year or that the increase in the share reserve for such calendar year shall be a lesser number of shares of common stock than would otherwise

occur pursuant to the preceding sentence. If any purchase right granted under the ESPP will for any reason terminate without having been exercised, the shares of common stock not purchased under such purchase right will again become available for issuance under the ESPP. The ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Internal Revenue Code.

Administration. Our board of directors administers the ESPP and has the final power to construe and interpret both the ESPP and the purchase rights granted thereunder. Our board of directors has the power, subject to the provisions of the ESPP, to determine the provisions of each offering of rights to purchase our common stock, and whether employees of any of our parent or subsidiary companies will be eligible to participate in the ESPP. Our board of directors has the power to delegate administration of the ESPP to a committee or committees. As used herein with respect to the ESPP, "board of directors" refers to any committee or committees our board appoints as well as to our board itself. The ESPP will be implemented through a series of offerings of such duration as determined by our board of directors to eligible employees, provided that in no event may an offering exceed 27 months. Each offering will consist of one or more purchase periods as determined by our board of directors prior to the commencement of that offering. Our board of directors has the authority to alter the duration of subsequent offerings or change the number of purchase dates within each such offering. The provisions of separate offerings need not be identical. When an eligible employee elects to join an offering, he or she will be granted a purchase right to acquire shares of common stock on each purchase date within the offering. On the purchase date, all payroll deductions collected from the participant are automatically applied to the purchase of common stock, subject to certain limitations. Our board of directors had not yet established the terms of any offering.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of any of our parent or subsidiary companies designated by our board of directors may contribute, normally through payroll deductions, up to 15% of their eligible cash compensation (or such lesser amount set by our board of directors for a specific offering) for the purchase of common stock under the ESPP. Amounts deducted and accumulated for a participant are used to purchase shares of our common stock on the purchase dates established by our board of directors. All payroll deductions made for a participant are credited to his or her account under the ESPP and deposited with our general funds. A participant may make additional payments into such account only as specifically provided for in the offering and only if the participant has not exceeded certain limitations under the ESPP or under the terms of such offering. The ESPP permits common stock to be purchased at a price per share no less than the lower of (i) 85% of the fair market value of a share of our common stock on the offering date, or (ii) 85% of the fair market value of a share of our common stock on the applicable purchase date.

Purchase of Stock. An eligible employee must sign and return an agreement in order to participate in the ESPP. In connection with offerings made under the ESPP, our board of directors may specify a maximum number of shares of common stock a participant may purchase and the maximum aggregate number of shares of common stock that may be purchased by all participants in such offering. In addition, in connection with each offering that contains more than one purchase date, our board of directors may specify a maximum aggregate number of shares of common stock that may be purchased by all participants on any purchase date under the offering. If the aggregate number of shares to be purchased upon exercise of outstanding purchase rights in the offering would exceed the maximum aggregate number of shares of common stock available, our board of directors will make a pro rata allocation of available shares in a uniform and equitable manner. Unless the employee's participation is discontinued, his or her right to purchase shares is exercised automatically at the next purchase date at the applicable price.

Withdrawal. During an offering, a participant may cease making contributions and withdraw from the offering by delivering a notice of withdrawal and terminating his or her payroll deductions in such form as we may require. Such withdrawal may occur at any time prior to the end of an offering except as otherwise provided by our board of directors. Upon such withdrawal, we will refund accumulated payroll deductions without interest to the employee, and such employee's right to participate in that offering will terminate. However, an employee's withdrawal from an offering does not generally affect such employee's eligibility to participate in subsequent offerings under the ESPP.

Reset Feature. Our board of directors has the authority to provide that if the fair market value of a share of our common stock on the first day of any purchase period within a particular offering is less than the fair market value on the start date of that offering, then the participants in that offering will automatically be transferred and enrolled in a new offering which will begin on the first day of that purchase period and the participant's purchase rights in the original offering will terminate.

Limitations. Our board of directors may limit participation in the ESPP to those persons who are customarily employed more than 20 hours per week and five months per calendar year by us (or by any of our parent or subsidiary companies designated by our board of directors) on the first day of an offering. The Board may also provide that a person must have been employed for such continuous period preceding the first day of the offering as our board of directors may require, but in no event may the required period of continuous employment be greater than two (2) years. In addition, our board of directors may provide in any offering that certain of our employees who are "highly compensated" as defined in the Code are not eligible to participate in the ESPP. Our board of directors may also provide that each person who, during the course of an offering, first becomes an eligible employee shall, on a date or dates specified in the offering, receive a purchase right under that offering at a price equal to the market price of our common stock at that time, which purchase right will be deemed to be a part of that offering, and such purchase right shall generally have the same characteristics as any purchase rights originally granted under that offering. No employee is eligible to participate in the ESPP if, immediately after the grant of purchase rights, the employee would own, directly or indirectly, stock possessing 5% or more of the total combined voting power or value of all classes of our stock or of any of our parent or subsidiary companies (including any stock which such employee may purchase under all outstanding purchase rights and stock options). In addition, no employee may purchase more than $25,000 worth of our common stock (valued at the time each purchase right is granted) for each calendar year during which those purchase rights are outstanding.

Termination of Employment. Purchase rights granted pursuant to any offering under the ESPP terminate upon cessation of employment for any reason, and we will refund all accumulated payroll deductions to the terminated employee without interest.

Restrictions on Transfer. A participant may not transfer rights granted under the ESPP other than by will, the laws of descent and distribution, or by a beneficiary designation as provided in the ESPP. During a participant's lifetime, purchase rights shall be exercisable only by such participant.

Changes to Capital Structure. In the event that there is any change to the outstanding common stock (whether by reason of merger, consolidation, reorganization, recapitalization, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or other transaction not involving the receipt of consideration by Quark), appropriate adjustments will be made to (a) the class(es) and maximum number of securities subject to the ESPP, (b) the class(es) and maximum number of securities by which the share reserve is to increase automatically each year, (c) the class(es) and number of securities subject to outstanding purchase rights, and (d) the class(es) and number of securities imposed by purchase limits under each ongoing offering.

Corporate Transactions. In the event of certain significant corporate transactions, any surviving or acquiring corporation may assume or substitute similar purchase rights for those outstanding under the ESPP. If the surviving or acquiring corporation does not assume such rights or substitute similar rights, then the participants' accumulated payroll deductions will be used to purchase of shares of common stock within ten (10) business days prior to the corporate transaction under any ongoing offerings, and such purchase rights will terminate immediately thereafter.

Termination and Amendment. Our board of directors may amend, suspend or terminate the ESPP at any time. Any amendment of the ESPP must be approved by our shareholders to the extent shareholder approval is necessary for the ESPP to satisfy Sections 423 of the Code or other applicable laws and regulations. Purchase rights granted before amendment or termination of the ESPP generally may not be altered or impaired by any amendment or termination of the ESPP without consent of the employee to whom such purchase rights were granted. No purchase rights may be granted under the ESPP while the ESPP is suspended or after it is terminated.

Compensation Committee Interlocks and Insider Participation

Our board of directors de-constituted our Compensation Committee on April 16, 2009, based on a determination that the board of directors did not need a Compensation Committee in place at the time. During the fiscal year ended December 31, 2009, Dr. Zurr, our Chief Executive Officer, participated in the deliberations of our Board of Directors with respect to executive officer compensation. Dr. Zurr makes recommendations regarding executive compensation, however, Dr. Zurr does not participate in discussions regarding his own compensation. None of our executive officers currently serves or in the prior three years has served as a member of the Board of Directors or compensation committee of any entity that has one or more executive officers serving on our board.

Limitation of Liability and Indemnification

Our amended and restated articles of incorporation, which will become effective upon the completion of this offering, limits the liability of our directors to the fullest extent permitted by California law. The California Corporations Code authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers, subject to certain exceptions, by reason of the fact that the person is or was an agent of the corporation, if that person acted in good faith and in a manner the person reasonably believed to be in the best interests of the corporation.

Our amended and restated bylaws, which will become effective upon the completion of this offering, provide that we will indemnify our directors and executive officers, and may indemnify other officers, employees and other agents, to the fullest extent permitted by law. Our amended and restated bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our amended and restated bylaws permit such indemnification. We have obtained such a directors' and officers' liability insurance policy.

We intend to enter into separate indemnification agreements with our directors and executive officers, in addition to the indemnification provided for in our amended and restated bylaws. These agreements, among other things, require us to indemnify our directors and executive officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of their services as one of our directors or executive officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request.

At present, there is no pending litigation or proceeding involving any of our directors or executive officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, executive officers or persons controlling us, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a summary of transactions from January 1, 2007 to September 15, 2010 to which we have been a party in which the amount involved exceeded $120,000 and in which any of our executive officers, directors or beneficial holders of more than five percent of our capital stock had or will have a direct or indirect material interest, other than compensation arrangements which are described under the section of this prospectus entitled "Compensation Discussion and Analysis."

Policies and Procedures for Related Party Transactions

We anticipate adopting a policy prior the completion this offering, but do not currently have a policy in place.

Sale of Securities

In March 2008, April 2008 and May 2010, we issued and sold to holders of more than 5% of our capital stock an aggregate of 7,400,000 shares of Series H preferred stock at a purchase price of $5.00 per share, for an aggregate consideration of approximately $37,000,000. Upon the completion of this offering, these shares will convert into an aggregate of 7,400,000 shares of common stock.

In May 2010, in connection with the issuance of shares of Series H preferred stock to investors, we issued and sold warrants to purchase an aggregate of 300,000 shares of Series H preferred stock, none of which warrants have been exercised as of August 31, 2010. The warrants have an exercise price of $5.00 per share. These warrants will terminate if not exercised prior to the completion this offering.

The participants in these preferred stock and preferred stock warrant issuances include the following holder of more than 5% of our capital stock. The following table presents the number of shares issued to this related party. For a description of current beneficial ownership, see "Principal Shareholders".

Purchaser	Series H preferred stock	Series H preferred stock warrants
5% Shareholders		
SBI Holdings, Inc.	8,531,510	300,000

Amended and Restated Investors' Rights Agreement

We have entered into an investors' rights agreement with the purchasers of our outstanding preferred stock and certain holders of common stock and warrants to purchase Series H Preferred stock, including entities with which certain of our directors are affiliated. As of August 31, 2010, the holders of 17,696,100 shares of our common stock, including the shares of common stock issued upon the automatic conversion of our preferred stock and shares of common stock issued upon the conversion of shares of preferred stock issued upon the exercise of warrants, are entitled to rights with respect to the registration of their shares under the Securities Act. For a description of these registration rights, see "Description of Capital Stock — Registration Rights."

Employment Agreements

We have entered into employment agreements with our executive officers and directors. For more information regarding these agreements, see "Compensation Discussion and Analysis — Employment Agreements and Potential Payments Upon Termination."

Stock Options Granted to Executive Officers and Directors

We have granted stock options to our executive officers and directors. For more information regarding these stock options, see "Management — Executive Compensation."

Indemnification Agreements with Executive Officers and Directors

Effective upon the closing of this offering, we will have entered into an indemnification agreement with each of our directors and executive officers. These indemnification agreements and our amended and restated articles of incorporation and amended and restated bylaws will indemnify each of our directors and officers to the fullest extent permitted by the California Corporations Code. See "Management — Limitation of Liability and Indemnification."

Loan to Chief Executive Officer

Additionally, we made a personal loan to our Chief Executive Officer in the principal amount of $157,000 in January 2008. The loan was granted to Dr. Zurr in exchange for a promissory note to repay the principal and interest within a fixed term. Under the note, we agreed to forgive the debt upon an initial public offering or upon entering into a significant collaboration or joint venture agreement with a major United States or European based pharmaceutical company. The note was forgiven in full by the Company in September 2010 in recognition of Dr. Zurr's service to Quark.

PRINCIPAL SHAREHOLDERS

The following table sets forth information regarding the beneficial ownership of our common stock as of August 15, 2010 and as adjusted to reflect the sale of the common stock in this offering for:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock;
- each of our named executive officers;
- each of our directors; and
- all of our executive officers and directors as a group.

The percentage ownership information shown in the table is based upon 21,084,630 shares of common stock outstanding as of August 15, 2010, assuming the conversion of all outstanding shares of our preferred stock as of August 15, 2010.

Information with respect to beneficial ownership has been furnished by each director, officer or beneficial owner of more than 5% of our common stock. We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include shares of common stock issuable pursuant to the exercise of stock options or warrants that are either immediately exercisable or exercisable on or before October 14, 2010, which is 60 days after August 15, 2010. These shares are deemed to be outstanding and beneficially owned by the person holding those options or warrants for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Except as otherwise noted below, the address for each person or entity listed in the table is c/o Quark Pharmaceuticals, Inc., 6501 Dumbarton Circle, Fremont, California 94555.

Name and Address of Beneficial Owner	Number of shares beneficially owned	Percentage of shares beneficially owned (%)	
		Before offering	After offering
5% Shareholders			
SBI Holdings, Inc.[1] Izumi Garden Tower 1-6-1 Roppongi, Minato-ku Tokyo 106-6019	8,831,510	41.3	
Lawrence Investments, LLC[2] Attn: Lawrence J. Ellison Oracle Corporation 500 Oracle Parkway Redwood Shores, CA 94605	5,492,332	26.1	
Executive Officers and Directors			
Daniel Zurr, Ph.D.[3]	1,769,698	8.4	
Rami Skaliter, Ph.D.[4]	141,721	*	
Smadar Shakked, CPA (Isr)[5]	79,868	*	
Shai Erlich, Ph.D.[6]	122,590	*	
Elena Feinstein, M.D., Ph.D.[7]	105,860	*	
Sagit Reich, CPA (Isr))	0	*	
Yoshitaka Kitao[8]	8,831,510	41.3	
Toshihiro Toyoshima	0	*	
Philip M. Hahn[9]	26,949	*	
Philip B. Simon[10]	5,618,897	26.5	
Robert Takeuchi[11]	8,831,510	41.3	
All executive officers and directors as a group (12 persons)	16,783,299	76.1	

* Represents beneficial ownership of less than 1%.

(1) Includes 114,000 shares held directly and 35,625 shares issuable upon the exercise of a warrant exercisable within 60 days of August 15, 2010 by SBI Broadband Capital Co., Ltd., 620,000 shares held directly by TS-MI No. 1 Investment Limited Partnership, 318,302 shares held directly by TS-US No. 1 Investment Limited Partnership, 340,000 shares held directly by TS-US No. 3 Investment Limited Partnership, 1,398,318 shares held directly by SBI Life Science Technology Investment LPS, 932,212 shares held directly by SBI Life Science Technology II Investment LPS, 869,470 shares held directly by SBI Selective Target Investment LPS, 200,000 shares held directly and 62,500 shares issuable upon the exercise of a warrant exercisable within 60 days of August 15, 2010 by SBI Bio Life Science Investment LPS, 186,000 shares held directly and 58,125 shares issuable upon the exercise of a warrant exercisable within 60 days of August 15, 2010 by SBI Broadband Fund No. 1 Limited Partnership, 180,000 shares held directly and 56,250 shares issuable upon the exercise of a warrant exercisable within 60 days of August 15, 2010 by SBI BB Mobile Investment LPS, 160,000 shares held directly and 50,000 shares issuable upon the exercise of a warrant exercisable within 60 days of August 15, 2010 by IP Investment LPS, 120,000 shares held directly and 37,500 shares issuable upon the exercise of a warrant exercisable within 60 days of August 15, 2010 by SBI BB Media Investment Limited Partnership, 1,820,000 shares held directly by SBI Bond and Private Equity Fund III and 1,273,208 shares held directly by Japan Trustee Services Bank Ltd. re: RTB Trans-Science Global Biotechnology Fund (collectively, the "SBI Companies"). Mr. Yoshitaka Kitao is the Representative Director and CEO of SBI Holdings, Inc. ("SBI Holdings") which controls the SBI Companies and Mr. Robert Takeuchi is an Executive Officer and Director of an affiliate of SBI Holdings. Each of Messrs. Kitao and Takeuchi disclaim beneficial ownership of these shares, except to the extent of their pecuniary interest therein.

(2) Mr. Philip B. Simon is the President of Lawrence Investments LLC ("Lawrence Investments"). Mr. Simon has voting authority over the shares held by Lawrence Investments, although Mr. Lawrence J. Ellison, by virtue of his control of Lawrence Investments, possess the ultimate authority over the voting and disposition of such shares. Mr. Simon disclaims beneficial ownership of the shares held by Lawrence Investments except to the extent of his pecuniary interest therein.

(3) Includes 45,561 shares of common stock issuable upon the exercise of stock options exercisable within 60 days of August 15, 2010.

(4) Includes 114,826 shares of common stock issuable upon the exercise of stock options exercisable within 60 days of August 15, 2010.

(5) Includes 63,317 shares of common stock issuable upon the exercise of stock options exercisable within 60 days of August 15, 2010.

(6) Includes 122,590 shares of common stock issuable upon the exercise of stock options exercisable within 60 days of August 15, 2010.

(7) Includes 105,860 shares of common stock issuable upon the exercise of stock options exercisable within 60 days of August 15, 2010.

(8) Includes 8,831,510 shares of common stock beneficially owned directly by the SBI Companies. See footnote 1.

(9) Includes 26,949 shares of common stock issuable upon the exercise of stock options exercisable within 60 days of August 15, 2010.

(10) Includes 126,565 shares of common stock issuable upon the exercise of stock options exercisable within 60 days of August 15, 2010 (of which 34,482 shares shall expire if not exercised prior to October 5, 2010). Includes 5,492,332 shares of common stock beneficially owned directly by Lawrence Investments. Mr. Simon is the President of Lawrence Investments. Mr. Simon disclaims beneficial ownership of the shares held by Lawrence Investments except to the extent of his pecuniary interest therein.

(11) Includes 8,831,510 shares of common stock beneficially owned directly by the SBI Companies. See footnote 1.

DESCRIPTION OF CAPITAL STOCK

Upon completion of this offering and the filing of our amended and restated articles of incorporation, our authorized capital stock will consist of shares of common stock, par value $0.001 per share, and shares of preferred stock, par value $0.001 per share.

The following is a summary of the rights of our common stock and preferred stock. This summary is not complete. For more detailed information, please see our amended and restated articles of incorporation and amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part.

Units

Each unit consists of shares of our common stock and warrants. Each warrant shall be exercisable into one share of our common stock at an exercise price equal to and will be exercisable for years from the date on which they are issued.

Common Stock

Outstanding Shares.

Based on 21,084,630 shares of common stock outstanding as of August 15, 2010, which assumes the conversion of all outstanding preferred stock into 17,696,100 shares of common stock upon the completion of this offering, the issuance of shares of common stock in this offering, and no exercise of outstanding options or warrants, there will be shares of common stock outstanding upon completion of this offering. As of August 15, 2010, assuming the conversion of all outstanding preferred stock into common stock upon the completion of this offering, we had approximately 134 record holders of our common stock.

As of August 15, 2010, there were 2,543,873 shares of common stock subject to outstanding options, and 300,000 shares of preferred stock subject to outstanding warrants.

Voting Rights.

Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of the shareholders, including the election of directors. Our amended and restated articles of incorporation and amended and restated bylaws do not provide for cumulative voting rights. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors have the ability to elect all of the directors standing for election.

Dividends.

Subject to preferences that may be applicable to any then outstanding preferred stock, the holders of our outstanding shares of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation.

In the event of our liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to shareholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Rights and Preferences.

Holders of our common stock have no preemptive or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Fully Paid and Nonassessable.

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, fully paid and nonassessable.

Preferred Stock

Upon the closing of this offering, all outstanding shares of preferred stock will convert into shares of common stock. See Notes 10 and 11 to our financial statements for a description of the currently outstanding preferred stock.

Warrants

Warrants Issued Under the Units

Each unit offered in this offering consists of shares of our common stock and warrants. Each warrant shall be exercisable into one share of our common stock at an exercise price equal to per share. The warrants will be exercisable for a period of years commencing on the date on which they are issued. The exercise prices of the warrants have been determined by our management based on management's assessment of prevailing market conditions.

Shares of our common stock issued upon the exercise of the warrants will have the same rights afforded to holders of our common stock, as in effect on the date of exercise of the warrant or as thereafter amended or modified.

Additional Warrants

As of August 15, 2010, warrants exercisable for a total of 300,000 shares of our Series H preferred stock were outstanding. These warrants were issued in connection with the third closing of our Series H preferred stock private financing that took place in May 2010. These warrants are immediately exercisable at an exercise price of $5.00 per share of Series H preferred stock, subject to certain adjustments, including upon the conversion of our Series H preferred stock into shares of our common stock. These warrants will expire on the earlier of May 17, 2015, or, following required notice, upon completion of this offering. Immediately prior to the completion of this offering, these warrants will become exercisable instead for 300,000 shares of our common stock, at an exercise price of $5.00 per share. These warrants for Series H preferred stock have net exercise provisions under which the holder may, at their option and in lieu of payment of the exercise price in cash, surrender the warrant and receive a net amount of shares of Series H preferred stock based on the fair market value of our Series H preferred stock at the time of exercise of the warrant after deduction of the aggregate exercise price. These warrants also contain provisions for the adjustment of the exercise price and the aggregate number of shares issuable upon the exercise of the warrant in the event of stock dividends, stock splits or stock combinations, reclassifications, combinations or exchanges.

Registration Rights

Under our Fourth Amended and Restated Investor Rights Agreement, following the completion of this offering, the holders of 17,696,100 shares of common stock, including the shares of common stock issued upon exercise of warrants to purchase common stock, or their permitted transferees, have the right to require us to register their shares with the SEC so that those shares may be publicly resold, or to include their shares in any registration statement we file, in each case as described below.

Demand Registration Rights.

At any time beginning six months after the completion of this offering, the holders of at least 33% of shares having registration rights issued upon conversion of Series A, Series B, Series C, Series D, Series E, Series F, Series G and Series H preferred stock, shares held by certain of our founders and other holders and shares of common stock issued upon exercise of warrants to purchase common stock, have the right to request that we file registration statements for such holders, so long as the aggregate value of securities to be sold under such registration statement is at least $3,000,000 or such requesting holders include at least an aggregate of 15% of securities held by them in such registration. We are only obligated to file up to two registration statements upon the request of such holders and shall not be required to effect a service of process in order to effect a registration. The registration rights are subject to other specified conditions and limitations, including the right of underwriters to limit the number of shares in any such registration under certain circumstances, or if our President shall sign a certificate to be furnished to such holders which includes a statement that, in the good faith judgment of our board of directors, it would be seriously detrimental to the Company or our shareholders to effect such a registration in the near future.

"Piggyback" Registration Rights.

Following the completion of this offering, if we register any securities on our own account for public sale, we are required to give shareholders holding registration rights notice of such registration and include their shares in the registration statement. The underwriters of any underwritten offering will have the right to limit the number of shares having registration rights to be included in the registration.

Form S-3 Registration Rights.

If we are eligible to file a registration statement on Form S-3, and holders of at least 2% of our then outstanding shares having registration rights, assuming the exercise or conversion of all outstanding warrants and stock options to purchase common stock, shall request the Company to file a registration on Form S-3 with an aggregate offering price to the public that would exceed $1,000,000, then we shall be obligated to use our best efforts to register such shares. However, we shall not be required to effect such registration more than twice in any twelve month period.

Expenses of Registration.

We will pay all expenses relating to all demand registrations, Form S-3 registrations and piggyback registrations, other than underwriting discounts and commissions and stock transfer taxes.

Expiration of Registration Rights.

The registration rights described above terminate as to each holder at such time as a public market for the Company's common stock exists, and all shares held by such holder may be sold within a three month period pursuant to Rule 144 or any other applicable exemption from registration.

Anti-Takeover Provisions of our Amended and Restated Articles of Incorporation and Amended and Restated Bylaws

Provisions of our amended and restated articles of incorporation and amended and restated bylaws, which will become effective prior to the closing of this offering, may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which shareholders might otherwise receive a premium for their shares, or transactions that our shareholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our amended and restated certificate of incorporation and amended and restated bylaws:

- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that following completion of this offering any action to be taken by our shareholders must be effected at a duly called annual or special meeting of shareholders and not be taken by written consent;
- provide that shareholders seeking to present proposals before a meeting of shareholders or to nominate candidates for election as directors at a meeting of shareholders must provide notice in writing in a timely manner, and also specify requirements as to the form and content of a shareholder's notice;
- do not provide for cumulative voting rights following the time that we become a listed company (therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose); and
- provide that shareholders will be permitted to amend our amended and restated bylaws only upon receiving at least 66 2/3% of the votes entitled to be cast by holders of all outstanding shares then entitled to vote generally in the election of directors, voting together as a single class.

In addition, as a California corporation, we are subject to the provisions of Section 1203 of the California Corporations Code, which requires us to provide a fairness opinion to our shareholders in connection with their consideration of any proposed "interested party" reorganization transaction.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is . The transfer agent and registrar's address is .

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock. Following this offering, we expect that our common stock will be listed on the Tel Aviv Stock Exchange, or TASE. We do not expect that a public market will develop for our common stock or any other of our securities in the United States.

Future sales of substantial amounts of our common stock in the public market could adversely affect prevailing market prices. Furthermore, since only a limited number of shares will be available for sale shortly after this offering because of legal restrictions on resale described below, sales of substantial amounts of common stock in the public market after the restrictions lapse could adversely affect the prevailing market price for our common stock as well as our ability to raise equity capital in the future.

- Based on the number of shares of common stock outstanding as of August 15, 2010, upon the closing of this offering, shares of our common stock will be outstanding, assuming no exercise of options or warrants. All of the shares sold in this offering will be freely tradable unless held by our affiliates. Of the remaining shares of common stock outstanding after this offering, approximately will be restricted as a result of restrictions imposed by TASE; and
- all such restricted shares will be eligible for sale under Rule 144 or Rule 701 upon expiration restrictions imposed by TASE, as further described below, at least 180 days after the date of this offering, provided that certain shares held by affiliates will be subject to the volume limitations described below.

Rule 144

In general, a person who has beneficially owned restricted shares of our common stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the three months preceding, a sale and (ii) we are subject to and compliant with the Exchange Act periodic reporting requirements for at least 90 days before the sale. In addition, under Rule 144, any person who is not an affiliate of ours, has not been an affiliate of ours during the preceding three months and has held their shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares immediately upon the closing of this offering without regard to whether current public information about us is available. Persons who have beneficially owned restricted shares of our common stock for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of 1% of the number of shares of our common stock then outstanding. Sales under Rule 144 are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers, directors or consultants who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. will become eligible for sale at the expiration of those agreements.

Restrictions on Transfer Imposed by the Tel Aviv Stock Exchange

Under the rules TASE, for three months following the initial listing of our securities on TASE each of our directors, our chief executive officer and all of beneficial holders of 5% or more of our outstanding common stock, unless such beneficial holder acquired its securities in the offering, will be restricted from selling or entering into any other transaction with shares of our common stock or other of our securities held by them. Beginning three months after initial listing, through until the end of the eighteenth month following listing, 2.5% of the total number of shares of our common stock held by such persons will be released from these restrictions each month. At the end of the eighteenth month following listing of our common stock on

TASE, our directors, our chief executive officer and all of beneficial holders of 5% or more of our outstanding common stock will cease to be under any restrictions regarding transactions in our common stock or other securities under the rules of TASE.

In addition, under the rules of TASE, for three months following the initial listing of our common stock on TASE, any holder of our securities that is not an employee of ours and that acquired those securities during the 12 months prior to submission of our TASE listing application, is restricted from selling or entering into any other transaction with those securities acquired during that prior 12 month period. Beginning three months after initial listing of our common stock on TASE, through until the end of the ninth month following listing, 12.5% of the total number of these securities whose sale is restricted will be released from these restrictions each month, and at the end of the ninth month will cease to be under any restrictions under the rules of TASE. There are several exceptions to the above restrictions, primarily that (1) following 6 months from listing, a transaction outside TASE can be made provided that the recipient undertakes the remaining restriction, and (2) restricted securities may be pledged so long as the exercise of the pledge shall not occur during the period of restriction.

Registration Rights

Upon the closing of this offering, the holders of 17,696,100 shares of our common stock and warrants to purchase up to 300,000 shares of our common stock will be entitled to rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates, immediately upon the effectiveness of this registration. Any sales of securities by these shareholders could have a material adverse effect on the trading price of our common stock. See "Description of Capital Stock — Registration Rights."

Equity Incentive Plans

We intend to file with the SEC a registration statement under the Securities Act covering the shares of common stock reserved for issuance under our 2007 Equity Incentive Plan and 2010 Employee Stock Purchase Plan. The registration statement is expected to be filed and become effective as soon as practicable after the closing of this offering. Accordingly, shares registered under the registration statement will be available for sale in the open market following its effective date, subject to the lock-up agreements described above, if applicable.

MATERIAL U.S. FEDERAL INCOME AND ESTATE TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following summary describes the material U.S. federal income and estate tax consequences of the acquisition, ownership and disposition of common stock acquired in this offering by certain Non-U.S. Holders (as defined below). This discussion does not address all aspects of U.S. federal income and estate taxes and does not deal with foreign, state and local consequences that may be relevant to Non-U.S. Holders in light of their particular circumstances, nor U.S. federal tax consequences other than income and estate taxes. Special rules different from those described below may apply to certain Non-U.S. Holders that are subject to special treatment under the Code, such as financial institutions, insurance companies, tax-exempt organizations, broker-dealers and traders in securities, U.S. expatriates, regulated investment companies, real estate investment trusts, "controlled foreign corporations," "passive foreign investment companies," corporations that accumulate earnings to avoid U.S. federal income tax, persons that hold our common stock as pan of a "straddle," "hedge," "conversion transaction," "synthetic security" or integrated investment or other risk reduction strategy, partnerships and other pass-through entities, and investors in such pass-through entities. Such Non-U.S. Holders are urged to consult their own tax advisors to determine the U.S. federal, state, local and other tax consequences that may be relevant to them. Furthermore, the discussion below is based upon the provisions of the Code, and Treasury regulations, rulings and judicial decisions thereunder as of the date hereof, and such authorities may be repealed, revoked or modified, perhaps retroactively, so as to result in U.S. federal income and estate tax consequences different from those discussed below. We have not requested any ruling from the U.S. Internal Revenue Service, or IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will agree with such statements and conclusions. This discussion assumes that the Non-U.S. Holder holds our common stock as a capital asset.

The following discussion is for general information only and is not tax advice. Persons considering the purchase of common stock pursuant to this offering should consult their own tax advisors concerning the U.S. federal income and estate tax consequences in light of their particular situations as well as any consequences arising under the laws of any other taxing jurisdiction, including any state, local or foreign tax consequences.

For the purposes of this discussion, a "Non-U.S. Holder" is, for U.S. federal income tax purposes, a beneficial owner of common stock that is not a U.S. Holder. A "U.S. Holder" means a beneficial owner of common stock that is for U.S. federal income tax purposes (i) an individual who is a citizen or resident of the United States, (ii) a corporation or other entity treated as a corporation created or organized in or under the laws of the United States or any political subdivision thereof, (iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source or (iv) a trust if it (x) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (y) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

Distributions

Subject to the discussion below, distributions, if any, made on our common stock to a Non-U.S. Holder of our common stock to the extent made out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles) generally will constitute dividends for U.S. tax purposes and will be subject to withholding tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. To obtain a reduced rate of withholding under a treaty, a Non-U.S. Holder generally will be required to provide us with a properly-executed IRS Form W-8BEN, or other appropriate form, certifying the Non-U.S. Holder's entitlement to benefits under that treaty. In the case of a Non-U.S. Holder that is an entity, Treasury Regulations and the relevant tax treaty provide rules to determine whether, for purposes of determining the applicability of a tax treaty, dividends will be treated as paid to the entity or to those holding an interest in that entity. If a Non-U.S. Holder holds stock through a financial institution or other agent acting on the holder's behalf, the holder will be required to provide appropriate documentation to such agent. The holder's agent will then be required to provide certification to us or our paying agent, either directly or through other intermediaries. If you are eligible for a reduced rate of U.S. federal withholding tax under an income tax treaty, you may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim for a refund with the IRS.

We generally are not required to withhold tax on dividends paid to a Non-U.S. Holder that are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, are attributable to a permanent establishment that you maintain in the United States) if a properly-executed IRS Form W-8ECI, stating that the dividends are so connected, is filed with us (or, if stock is held through a financial institution or other agent, with such agent). In general, such effectively connected dividends will be subject to U.S. federal income tax, on a net income basis at the regular graduated rates, unless a specific treaty exemption applies. A corporate Non-U.S. Holder receiving effectively connected dividends may also be subject to an additional "branch profits tax," which is imposed, under certain circumstances, at a rate of 30% (or such lower rate as may be specified by an applicable treaty) on the corporate Non-U.S. Holder's effectively connected earnings and profits, subject to certain adjustments.

To the extent distributions on our common stock, if any, exceed our current and accumulated earnings and profits, they will constitute a non-taxable return of capital and will first reduce your basis in our common stock, but not below zero, and then will be treated as gain and taxed in the same manner as gain realized from a sale or other disposition of common stock as described in the next section.

Gain on disposition of common stock

A Non-U.S. Holder generally will not be subject to U.S. federal income tax with respect to gain realized on a sale or other disposition of our common stock unless (i) the gain is effectively connected with a trade or business of such holder in the United States (and if required by an applicable income tax treaty, are attributable to a permanent establishment that such holder maintains in the United States), (ii) in the case of a Non-U.S. Holder who is a nonresident alien individual and is present in the United States for 183 or more days in the taxable year of the disposition and certain other conditions are met, or (iii) we are or have been a "United States real property holding corporation" within the meaning of Code Section 897(c)(2) at any time within the shorter of the five-year period preceding such disposition or such holder's holding period. In general, we would be a United States real property holding corporation if interests in U.S. real estate comprised (by fair market value) at least half of our real estate assets and other business assets. We believe that we are not, and do not anticipate becoming, a United States real property holding corporation. Even if we are treated as a United States real property holding corporation, gain realized by a Non-U.S. Holder on a disposition of our common stock will not be subject to U.S. federal income tax so long as (1) the Non-U.S. Holder owned directly, indirectly and constructively, no more than five percent of our common stock at all times within the shorter of (a) the five year period preceding the disposition or (b) the holder's holding period and (2) our common stock is regularly traded on an established securities market. There can be no assurance that our common stock will continue to qualify as regularly traded on an established securities market.

If you are a Non-U.S. Holder described in (i) above, you will be required to pay tax on the net gain derived from the sale at regular U.S. federal income tax rates, unless a specific treaty exemption applies, and corporate Non-U.S. Holders described in (i) above may be subject to the additional branch profits tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. If you are an individual Non-U.S. Holder described in (ii) above, you will be required to pay a flat 30% tax on the gain derived from the sale, which gain may be offset by U.S. source capital losses (even though you are not considered a resident of the United States).

Information reporting requirements and backup withholding

Generally, we must report information to the IRS with respect to any dividends we pay on our stock including the amount of any such dividends, the name and address of the recipient, and the amount, if any, of tax withheld. A similar report is sent to the holder to whom any such dividends are paid. Pursuant to tax treaties or certain other agreements, the IRS may make its reports available to tax authorities in the recipient's country of residence.

Dividends paid by us (or our paying agents) to a Non-U.S. Holder may also be subject to U.S. backup withholding. U.S. backup withholding generally will not apply to a Non-U.S. Holder who provides a properly-executed IRS Form W-8BEN or otherwise establishes an exemption. The current backup withholding rate is 28%, but is scheduled to increase to 31% after 2010.

Under current U.S. federal income tax law, U.S. information reporting and backup withholding generally will apply to the proceeds of a disposition of our common stock effected by or through a U.S. office of any broker, U.S. or foreign, except that backup withholding may be avoided if the holder provides a properly-executed IRS Form W-8BEN or otherwise meets documentary evidence requirements for establishing Non-U.S. Holder status or otherwise establishes an exemption. Generally, U.S. backup withholding will not apply to a payment of disposition proceeds to a Non-U.S. Holder where the transaction is effected outside the U.S. through a non-U.S. office of a non-U.S. broker. Backup withholding may, however, apply to a payment of disposition proceeds if the broker has actual knowledge, or reason to know, that the holder is, in fact, a U.S. person. For information reporting purposes, certain brokers with substantial U.S. ownership or operations will generally be treated in a manner similar to U.S. brokers.

Backup withholding is not an additional tax. Rather, the tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund may generally be obtained, provided that the required information is timely furnished to the IRS.

Recently enacted legislation affecting taxation of our common stock held by or through foreign entities

Recently enacted legislation generally will impose a U.S. federal withholding tax of 30% on dividends and the gross proceeds of a disposition of our common stock paid after December 31, 2012 to a foreign financial institution unless such institution enters into an agreement with the U.S. government to withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with U.S. owners). The legislation also will generally impose a U.S. federal withholding tax of 30% on dividends and the gross proceeds of a disposition of our common stock paid after December 31, 2012 to a non-financial foreign entity unless such entity provides the withholding agent with either a certification that it does not have any substantial direct or indirect U.S. owners or provides information regarding direct and indirect U.S. owners of the entity. Under certain circumstances, a Non-U.S. Holder might be eligible for refunds or credits of such taxes. Holders are encouraged to consult with their own tax advisors regarding the possible implications of the legislation on their investment in our common stock.

New healthcare legislation

Under newly enacted legislation, certain U.S. holders that are individuals, estates or trusts will be required to pay an additional tax on, among other things, interest and dividends on and capital gains from the sale or other disposition of notes and stock for taxable years beginning after December 31, 2012. U.S. holders should consult their tax advisors regarding the effect, if any, of this legislation on their ownership and disposition of our notes and common stock.

Federal estate tax

An individual who is treated as the owner of, or has made certain lifetime transfers of, an interest in our common stock will be required to include the value thereof in his or her gross estate for U.S. federal estate tax purposes, and may be subject to U.S. federal estate tax unless an applicable estate tax treaty provides otherwise, even though such individual was not a citizen or resident of the United States at the time of his or her death. Although the U.S. federal estate tax has been repealed for the tax year 2010, it is set to be reinstated (absent new legislation) at its pre-2001 rates and exemptions.

THE PRECEDING DISCUSSION OF U.S. FEDERAL INCOME AND ESTATE TAX CONSIDERATIONS IS FOR GENERAL INFORMATION ONLY. IT IS NOT TAX ADVICE. EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE TAX CONSEQUENCES OF PURCHASING, HOLDING AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAW.

PLAN OF DISTRIBUTION

We are offering up to units, each consisting of shares of common stock and warrants to purchase an additional shares of common stock, for Shekels per unit, with aggregate gross proceeds of up to Shekels (approximately $). The offering is not underwritten. Pursuant to an engagement letter agreement, we have engaged Clal Finance Underwriting Ltd., or Clal, as our leading distributor for this offering. Clal has not made an underwriting commitment, but is undertaking to market our securities for distribution commissions detailed below, along with a number of other Israeli distributors. Clal is not obligated to purchase or sell any units, nor is it required to arrange for the purchase and sale of any specific number or Shekel amount of units, other than to use its "best efforts" to arrange for the sale of units by us. As a result, we may not sell the entire amount of units being offered. Apart from Clal, we have engaged the following distributors to market our securities for distribution commissions detailed below:

There is currently no public or other trading market in the U.S. or in Israel for our shares of common stock or warrants, and we cannot give any assurance to you that the shares offered by this prospectus will have a market value, or that they can be resold for at least the sale price if and when an active secondary market might develop, or that a public market for our shares or warrants will be sustained even if one is ultimately developed. Upon the consummation of the offering, the units will separate immediately and the shares of our common stock and the warrants comprising the units will be issued and will trade separately. The shares of our common stock and warrants which are being offered under this prospectus will then be listed for trading on the TASE, conditioned upon completion of the offering, including the satisfaction of all of TASE's requirements for listing the securities offered.

The offering of our securities began with the publication of the Israeli prospectus that we filed with the Israel Securities Authority. Following our road show in Israel, on 2010 a tender for sophisticated investors, as defined in the First Schedule of Israel Securities Law, was held. Sophisticated investors, including Israeli mutual funds, insurers, banks and investment advisors, are allowed to place early commitments for the purchase of securities which are non-binding on us unless we complete the offering. In return, if we accept their tender, we have agreed to pay such sophisticated investors an early commitment commission of %, which shall be deducted from their purchase price. In addition, sophisticated investors will be entitled to allocation of more securities than other investors in case of oversubscription to the offer. Following the tender for sophisticated investors, we determined the final scope and pricing of the offering and published a supplemental notice to the Israeli prospectus, which includes the results of the tender for sophisticated investors. In the tender for sophisticated investors we have decided to accept, if we complete the offering, early commitments for a total amount of units, with a price range of to Shekels per unit. We have turned down early commitments with prices below Shekels per unit. Holding a tender for sophisticated investors did not oblige us to hold the public tender, or to complete the offering, and the acceptance of early commitments by us is conditioned upon completing the offering as detailed below.

The supplemental notice defines the period for submitting orders, which shall begin on 2010, 10:00 a.m., Israel time, and end on 2010, 4:00 p.m., Israel time. The procedures for submitting orders, and the rules of the public tender, are detailed in the Israeli prospectus. We intend to perform a Uniform Offering, as prescribed under Israel Securities Act and Regulations, in which the offer is directed at all prospective investors (the general public in Israel), and the allocation of securities is made according to the results of the tender: Each prospective investor is entitled to place up to three orders at various prices, with a minimal price of Shekels per unit. Each order shall state the price and amount. By submitting an order, each investor irrevocably undertakes to purchase and pay for the units that will be issued to such investor, if any. The actual sale price will be the highest price at which all securities offered in the prospectus can be sold and if the amount of securities for which orders were placed is smaller then the amount offered in the prospectus, the sale price will be the minimum price stipulated in the offer, of Shekels per unit. Purchasers of securities that proposed a price that is higher than the sales price will be allocated the full amount ordered. Purchasers of securities that proposed a price that is equal to the sale price will be allocated securities on a pro-rata basis according to the ratio between the number of securities they offered to purchase and the total orders placed at such price, with a preference with regards to allocation of securities given to sophisticated investors in case of oversubscription. Orders placed for a price that is lower than the sale price will not be accepted. The sale price shall be the same for all, with the exception of sophisticated investors

whose orders enjoy a discount, as a result of the early commitment commission. Sophisticated investors may also place orders in the public tender, but such orders will not have preferential terms. In addition, TASE regulations require a minimal dispersion of securities in order to ensure market liquidity. In case the required dispersion is not achieved, re-allocation can be stipulated by us according to Israel Securities Regulations and the standards detailed in the Israeli prospectus by setting the sale price lower. The completion of the offering is conditioned upon satisfying all TASE's requirements for listing the securities offered, and minimal proceeds in an amount of Shekels (approximately $).

Upon completion of the offering, we will pay the distributors the following commissions: % of gross proceeds plus Israel Value Added Tax, or VAT, as management and distribution commission; and additional % of gross proceeds + VAT in case the offering , as success commission. Clal, the lead distributor, shall determine according to its discretion and following the approval of the company, how the above commissions shall be distributed among others distributors. In addition, the Offering Coordinator, , who is responsible for various matters concerning the submission of orders and the offering proceeds, shall be entitled to a commission of Shekels + VAT.

Distributors are not qualified as underwriters under Israel Securities Regulations, and do not assume liability for the disclosure in the prospectus. Distributors, or entities related to distributors, may bid on or purchase our securities, and such bids can be made at the tender for Institutional Investors or at the Public Tender. Bids made by distributors, or related entities, at the tender for sophisticated investors are detailed in the Supplemental Notice to the Israeli Prospectus; purchases made by distributors, or related entities, at the Public Tender, shall be published in the report on the offering's results.

LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus will be passed upon for us by Cooley LLP of Palo Alto, California.

EXPERTS

Kost, Forer Gabbay and Kasierer, a member of Ernst & Young Global, independent registered public accounting firm, has audited our consolidated financial statements at December 31, 2009 and 2008, and for each of the three years in the period ended December 31, 2009, as set forth in their report. We've included our financial statements in the prospectus and elsewhere in the registration statement in reliance on Kost, Forer Gabbay and Kasierer's report, given on their authority as experts in accounting and auditing.

We have engaged the services of an independent valuation firm, Variance Economic Consulting, Ltd., to perform an analysis to determine the fair value of our common stock for accounting purposes on various measurement dates.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act of 1933, as amended, with respect to the shares of common stock being offered by this prospectus. This prospectus does not contain all of the information in the registration statement and its exhibits. For further information with respect to Quark Pharmaceuticals, Inc. and the common stock offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at *http://www.sec.gov*. You may also read and copy any document we file with the SEC at its public reference facilities at 100 F Street, N.E., Washington, D.C. 20549, on official business days between 10:00 a.m. to 3:00 p.m. You may also obtain copies of these documents at prescribed rates by writing to the Public Reference Section of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facilities.

Upon the closing of this offering, we will be subject to the information reporting requirements of the Securities Exchange Act of 1934, as amended, and we will file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available for inspection and copying at the public reference room and website of the SEC referred to above. We also maintain a website at *www.quarkpharma.com*, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained on, or that can be accessed through, our website is not part of this prospectus.

QUARK PHARMACEUTICALS, INC.

CONSOLIDATED FINANCIAL STATEMENTS

U.S. DOLLARS IN THOUSANDS

Index

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of
Quark Pharmaceuticals, Inc.

We have audited the accompanying consolidated balance sheets of Quark Pharmaceuticals, Inc. ("the Company") and its subsidiaries as of December 31, 2009 and 2008, and the related consolidated statements of operations, changes in stockholders' equity (deficiency) and cash flows for each of the three years in the period ended December 31, 2009. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company and its subsidiaries at December 31, 2009 and 2008 and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2009, in conformity with U.S. generally accepted accounting principles.

Tel-Aviv, Israel
September 24, 2010

/s/ KOST FORER GABBAY & KASIERER
KOST FORER GABBAY & KASIERER
A Member of Ernst & Young Global

QUARK PHARMACEUTICALS, INC.

CONSOLIDATED BALANCE SHEETS
U.S. dollars in thousands

	June 30, 2010	December 31, 2009	December 31, 2008
	Unaudited		
ASSETS			
CURRENT ASSETS:			
Cash and cash equivalents	$ 12,425	$ 12,842	$ 32,734
Restricted cash	83	83	81
Accounts receivable	648	397	392
Other receivables and prepaid expenses (Note 4)	882	722	1,380
Loan to related party (Note 5)	157	—	—
Total current assets	14,195	14,044	34,587
LONG-TERM LEASE DEPOSIT AND RESTRICTED BANK DEPOSIT	300	306	299
LONG-TERM DEFERRED TAX ASSETS	—	35	5
LOAN TO RELATED PARTY (Note 5)	—	156	155
SEVERANCE PAY FUND	621	631	645
PROPERTY AND EQUIPMENT, NET (Note 6)	514	518	683
Total assets	$ 15,630	$ 15,690	$ 36,374

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

QUARK PHARMACEUTICALS, INC.

CONSOLIDATED BALANCE SHEETS
U.S. dollars in thousands (except share and per share data)

	Pro forma stockholders' equity as of June 30, 2010	June 30, 2010	December 31, 2009	December 31, 2008
	Unaudited			
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIENCY)				
CURRENT LIABILITIES:				
Trade payables		$ 1,401	$ 1,547	$ 1,163
Accrued research and development fees		915	915	1,783
Other payables and accrued expenses (Note 7)		1,643	1,404	1,638
Income tax payable and reserves (Note 9)		966	1,305	2,575
Deferred revenues		5	81	16
Total current liabilities		4,930	5,252	7,175
ACCRUED SEVERANCE PAY		558	570	623
WARRANTS TO SERIES H REDEEMABLE CONVERTIBLE PREFERRED STOCK (Note 10b)		491	—	—
COMMITMENTS AND CONTINGENT LIABILITIES (Note 8)				
REDEEMABLE PREFERRED STOCK (Note 10):				
Series H Redeemable Convertible Preferred stock of $0.001 par value – Authorized: 5,400,000, 5,400,000 and 7,700,000 (unaudited) shares at December 31, 2008, 2009 and June 30, 2010, respectively; Issued and outstanding: 5,400,000, 5,400,000 and 7,400,000 (unaudited) shares at December 31, 2008, 2009 and June 30, 2010, respectively; Aggregate liquidation preference of $32,400 and $44,400 (unaudited) at December 31, 2009 and June 30, 2010, respectively. None issued and outstanding (pro forma) at June 30, 2010 (unaudited)	$ —	37,000	27,000	27,000
STOCKHOLDERS' EQUITY (DEFICIENCY):				
Stock capital (Note 11) –				
Common stock of $0.001 par value – Authorized: 72,500,000 and 74,800,000 (unaudited) shares at December 31, 2008 and 2009 and at June 30, 2010; Issued and outstanding: 3,387,330 and 3,388,530 (unaudited) shares at December 31, 2008, 2009 and June 30, 2010, respectively. 21,084,630 shares issued and outstanding (pro forma) at June 30, 2010 (unaudited)	21	3	3	3
Series A – G Convertible Preferred stock of $0.001 par value – Authorized: 25,882,410 shares at December 31, 2008, 2009 and June 30, 2010; Issued and outstanding: 25,879,611 shares at December 31, 2008, 2009 and June 30, 2010; Aggregate liquidation preference of $86,443 at December 31, 2008, 2009 and June 30, 2010. None issued and outstanding (pro forma) at June 30, 2010 (unaudited)	—	26	26	26
Additional paid-in capital	113,977	76,977	75,480	74,547
Accumulated deficit	(104,355)	(104,355)	(92,641)	(73,000)
Total stockholders' equity (deficiency)	$ 9,643	(27,349)	(17,132)	1,576
Total liabilities and stockholders' equity (deficiency)		$ 15,630	$ 15,690	$ 36,374

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

QUARK PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS
U.S. dollars in thousands (except share and per share data)

	Six month ended June 30,		Year ended December 31,		
	2010	2009	2009	2008	2007
	Unaudited				
Revenues (Note 14)	$ 1,250	$ 1,452	$ 2,655	$ 17,276	$ 27,878
Cost of development services	609	936	1,712	1,719	—
Gross profit	641	516	943	15,557	27,878
Operating costs and expenses:					
Research and development	7,783	9,036	15,744	18,726	20,774
General and administrative	2,908	2,618	5,087	5,018	7,055
Total operating costs and expenses	10,691	11,654	20,831	23,744	27,829
Operating income (loss)	(10,050)	(11,138)	(19,888)	(8,187)	49
Financial income (expenses), net (Note 12)	(141)	57	87	722	940
Income (loss) before income taxes	(10,191)	(11,081)	(19,801)	(7,465)	989
Income taxes (Note 9)	(155)	(103)	160	(1,667)	—
Net income (loss)	(10,346)	(11,184)	(19,641)	(9,132)	989
Changes of redemption value of series F and H Preferred stock	(1,368)	—	—	—	(336)
Deemed dividend as a result of warrants modification (Note 11b)	—	—	—	—	(117)
Income attributable to Preferred stockholders	—	—	—	—	536
Net loss to Common stockholders	$ (11,714)	$ (11,184)	$ (19,641)	$ (9,132)	$ —
Basic and diluted net loss per share of Common stock (Note 13)	$ (3.46)	$ (3.30)	$ (5.80)	$ (2.76)	$ —
Weighted average number of shares used in computing basic and diluted net loss per share	3,388,530	3,387,514	3,388,119	3,307,871	2,970,351
Pro forma net loss per share of Common stock	$ (0.53)		$ (1.03)		
Weighted average number of shares used in computing basic net loss per share – pro forma (unaudited)	19,573,519		19,084,219		

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

QUARK PHARMACEUTICALS, INC.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)
U.S. dollars in thousands (except share data)

	Common stock		Convertible Preferred stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity
	Stock	Amount	Stock	Amount			
Balance at January 1, 2007	2,628,784	$ 3	24,735,847	$ 25	$ 69,786	$ (64,404)	$ 5,410
Reclassification of series F Preferred stock	—	—	1,143,764	1	571	—	572
Stock-based compensation to employees	—	—	—	—	479	—	479
Compensation related to options to non-employees	—	—	—	—	2	—	2
Exercise of options	28,791	*)	—	—	25	—	25
Exercise of warrants	542,606	*)	—	—	2,250	—	2,250
Changes in the redemption value of series F Preferred stock	—	—	—	—	—	(336)	(336)
Deemed dividend as a result of warrants modification	—	—	—	—	117	(117)	—
Net income	—	—	—	—	—	989	989
Balance at December 31, 2007	3,200,181	3	25,879,611	26	73,230	(63,868)	9,391
Stock-based compensation to employees	—	—	—	—	693	—	693
Compensation related to options to non-employees	—	—	—	—	14	—	14
Exercise of options	42,467	*)	—	—	10	—	10
Exercise of warrants	144,682	*)	—	—	600	—	600
Net loss	—	—	—	—	—	(9,132)	(9,132)
Balance at December 31, 2008	3,387,330	3	25,879,611	26	74,547	(73,000)	1,576
Stock-based compensation to employees	—	—	—	—	932	—	932
Exercise of options and warrants	1,200	*)	—	—	1	—	1
Net loss	—	—	—	—	—	(19,641)	(19,641)
Balance at December 31, 2009	3,388,530	3	25,879,611	26	75,480	(92,641)	(17,132)
Stock-based compensation to employees (unaudited)	—	—	—	—	464	—	464
Fair value of deferral of March 2008 series H Convertible Preferred stock date in the redemption value of series H Preferred stock (unaudited)	—	—	—	—	1,033	—	1,033
Changes in the redemption value of series H Preferred stock (unaudited)	—	—	—	—	—	(1,368)	(1,368)
Net loss	—	—	—	—	—	(10,346)	(10,346)
Balance at June 30, 2010 (unaudited)	3,388,530	$ 3	25,879,611	$ 26	$ 76,977	$ (104,355)	$ (27,349)

*) Represents an amount lower than $1.

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

QUARK PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS
U.S. dollars in thousands

	Six month ended June 30,		Year ended December 31,		
	2010	2009	2009	2008	2007
	Unaudited				
Cash flows from operating activities:					
Net income (loss)	$ (10,346)	$ (11,184)	$ (19,641)	$ (9,132)	$ 989
Adjustments to reconcile net income (loss) to net cash used in operating activities:					
Depreciation	89	131	233	330	485
Stock-based compensation	464	484	932	707	481
Forgiveness of loan to a related party	—	—	—	—	564
Decrease (increase) in accounts receivable	(251)	(27)	(5)	1,125	(870)
Decrease (increase) in other receivables and prepaid expenses	(189)	(8)	(59)	390	(553)
Change in deferred taxes	61	5	687	(909)	—
Increase (decrease) in trade payables	(146)	408	384	(769)	(223)
Increase (decrease) in accrued research and development fees	—	392	(868)	301	(206)
Increase (decrease) in other payables and accrued expenses	237	(12)	(234)	(557)	769
Increase (decrease) in tax payables	(328)	111	(1,342)	2,575	—
Change in fair value of warrants to Redeemable Preferred stock classified as liability	156	—	—	—	—
Increase (decrease) in deferred revenues	(76)	(11)	65	(682)	(10,979)
Gain on sale of property and equipment	(5)	—	(9)	(47)	(5)
Severance pay, net	(1)	(17)	(39)	(26)	3
Increase (decrease) in accrued interest on loan to a related party and others	(2)	20	73	(19)	(33)
Net cash used in operating activities	(10,337)	(9,708)	(19,823)	(6,713)	(9,578)
Cash flows from investing activities:					
Purchase of property and equipment	(86)	(47)	(70)	(293)	(199)
Investment in restricted cash	—	(2)	—	(1)	(80)
Investment in restricted bank deposit	—	(11)	—	—	(55)
Proceeds from sale of property and equipment	6	—	11	58	12
Decrease (increase) of long-term lease deposit	—	—	(11)	(11)	17
Loan to related party	—	—	—	(150)	—
Net cash used in investing activities	(80)	(60)	(70)	(397)	(305)

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

QUARK PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS
U.S. dollars in thousands

	Six month ended June 30,		Year ended December 31,		
	2010	**2009**	**2009**	**2008**	**2007**
	Unaudited				
Cash flows from financing activities:					
Proceeds from issuance of series H Redeemable Convertible Preferred stock and warrants	10,000	—	—	27,000	—
Exercise of warrants	—	—	—	600	2,250
Exercise of options	—	1	1	10	25
Net cash provided by financing activities	10,000	1	1	27,610	2,275
Increase (decrease) in cash and cash equivalents	(417)	(9,767)	(19,892)	20,500	(7,608)
Cash and cash equivalents at the beginning of the period	12,842	32,734	32,734	12,234	19,842
Cash and cash equivalents at the end of the period	$ 12,425	$ 22,967	$ 12,842	$ 32,734	$ 12,234
Supplemental information on financing activities not involving cash flow:					
Deemed dividend as a result of warrants modification	$ —	$ —	$ —	$ —	$ (117)
Supplemental cash flow activities:					
Cash paid during the period for:					
Income taxes	$ 347	$ 2	$ 404	$ 10	$ 16

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

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 1:- GENERAL

a. Quark Pharmaceuticals, Inc. (formerly: Quark Biotech, Inc.) ("the Company") was incorporated in the State of California in December 1993.

The Company is a clinical-stage biopharmaceutical company focused on discovering and developing novel therapeutics, based on pioneering gene discovery science and technology, with an initial focus on RNA interference-based therapeutics for the treatment of diseases associated with oxidative stress. The Company's product candidate portfolio is based on novel targets and therapeutic concepts discovered using its proprietary target gene discovery platform.

Q.B.I. Enterprises Ltd. ("Ltd."), a wholly-owned subsidiary, is engaged in research and development. Quark Metabolix Inc. ("QMI"), owned 80% by the Company, is inactive since September 2004.

For major licenses, collaboration agreements and customers, see Notes 3 and 14.

b. The Company and its subsidiary are devoting substantially all of their efforts toward research and development activities. In the course of such activities, the Company has sustained operating losses and expects such losses to continue in the foreseeable future. The Company's accumulated deficit as of June 30, 2010 is $104,355 (unaudited). The Company will have to obtain additional capital resources to maintain its research and development activities beyond 2011.

The Company is addressing its liquidity issues by implementing initiatives to allow the coverage of its budget deficit. Such initiatives include equity financing and cost reductions. There are no assurances, however, that the Company will be successful in obtaining an adequate level of financing needed for the long-term development and commercialization of its products.

In March 2008 and May 2010, the Company raised from new and existing investors approximately $27,000 and $10,000, respectively in consideration of the issuance of series H Redeemable Preferred stock. The series H Redeemable Preferred stock is redeemable at any time after August 31, 2011. The redemption right will terminate upon the conversion of all of the series H Redeemable Preferred stock or upon the closing of a qualified Initial Public Offering ("IPO") as defined in the Company's articles of incorporation (see Note 10).

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES

The consolidated financial statements are prepared according to United States generally accepted accounting principles ("U.S. GAAP").

In June 2009, the FASB issued FAS 168, "The FASB Accounting Standards Codifications and Hierarchy of GAAP — a Replacement of SFAS 162" (as codified in ASC 105, "Generally Accepted Accounting Principles"). FAS 168 amended the hierarchy of generally accepted accounting principles. Subsequent to its adoption in September 2009, the FASB Accounting Standards Codification™ ("Codification" or "ASC") became the single source of authoritative U.S. GAAP. The Codification did not create any new GAAP standards but incorporated existing accounting and reporting standards into a new topical structure with a new referencing system to identify authoritative accounting standards, replacing the prior references to Statement of Financial Accounting Standards (SFAS), Emerging Issues Task Force (EITF), FASB Staff Position (FSP), etc. Authoritative GAAP included in the Codification is designated by topical index, and new accounting updates will be designated as Accounting Standards Updates (ASU), with a year and assigned sequence number. References to prior standards have been updated to reflect the new referencing system.

a. Unaudited information:

The consolidated balance sheet as of June 30, 2010 and the related consolidated statements of operations and cash flows for the six months ended June 30, 2009 and 2010, and the statement of changes in stockholders' equity (deficiency) for the six months ended June 30, 2010 are unaudited. This unaudited

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

information has been prepared by the Company on the same basis as the audited annual consolidated financial statements and, in management's opinion, reflects all adjustments (consisting only of normal recurring accruals) necessary for a fair presentation of the financial information, in accordance with generally accepted accounting principles, for interim financial reporting for the periods presented and, accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for audited financial statements. Results for interim periods are not necessarily indicative of the results to be expected for the entire year.

b. Use of estimates:

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. The most significant assumptions are employed in estimates used in contingencies, deferred taxes, tax liabilities, stock-based compensation costs, marked to market liability warrants, as well as in estimates used in applying the revenue recognition policy. Actual results could differ from those estimates.

c. Financial statements in U.S. dollars:

The accompanying financial statements have been prepared in U.S. dollars.

Ltd. conducts the majority of its operations in Israel. However, most of Ltd.'s revenues are in the U.S. dollar and the Company's management believes that the dollar is the currency of the primary economic environment in which Ltd. operates. Thus, the functional and reporting currency of Ltd. is the U.S. dollar.

Transactions and balances denominated in U.S. dollars are presented at their original amounts. Monetary accounts maintained in currencies other than the dollar are remeasured into dollars in accordance with Accounting Standards Codification No. 830-10, "Foreign Currency Matters". All transaction gains and losses of the remeasurement of monetary balance sheet items are reflected in the consolidated statements of operations as financial income or expenses, as appropriate.

d. Principles of consolidation:

The consolidated financial statements include the accounts of the Company and its subsidiary. All intercompany balances and transactions have been eliminated upon consolidation.

e. Cash equivalents:

Cash equivalents are short-term, highly liquid investments that are readily convertible to cash with an original maturity of three months or less when purchased.

f. Restricted cash:

Restricted cash is an interest bearing saving account which is used as security for the Company's short-term credit.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

g. Property and equipment:

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets at the following rates:

	%
Machinery and equipment	15 – 33
Office furniture and equipment	6 – 33
Motor vehicles	15
Leasehold improvements	Over the shorter of the term of the lease or its useful life

h. Impairment of long-lived assets:

The Company's long-lived assets are reviewed for impairment in accordance with ASC 360-10, "Property, Plant and Equipment", whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Recoverability of an asset to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted cash flows expected to be generated by the asset. If such asset is considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds its fair value. During 2007, 2008 and 2009 and June 30, 2010 (unaudited), no impairment losses have been identified.

As required by ASC 820, "Fair Value Measurements", the Company applies assumptions that marketplace participants would consider in determining the fair value of long-lived assets (or assets group).

i. Long-term lease deposits and restricted bank deposit:

Long-term lease deposits and restricted bank deposit includes long-term deposits for offices rent.

j. Revenue recognition:

The Company generates revenues mainly from periodic fees for research services under its collaborations with pharmaceutical companies, from research and developments cost reimbursements, upfront and milestone payments under other collaboration agreements and to a lesser extent from certain short-term research service agreements and grants received.

The Company's revenue recognition policies are in accordance with the Securities and Exchange Commission's ("SEC") Staff Accounting Bulletin No. 104, "Revenue Recognition" ("SAB 104") and Accounting Standards Codification No. 605-25, "Revenue Arrangements with Multiple Deliverables" ("ASC 605-25") and Accounting Standards Codification No. 605-45, "Reporting Revenue Gross Versus Net as an Agent" ("ASC 605-45").

License agreement with Pfizer Inc. ("Pfizer"):

This multiple element arrangement was analyzed to determine whether the deliverables, which include a license and performance obligations such as research and steering committee services, can be separated or whether they must be accounted for as a single unit of accounting in accordance with ASC 605-25. According to ASC 605-25 the Company considered if (i) the license has stand-alone value and (ii) whether a fair value of any of the undelivered performance obligations can be determined. Because the Company could not determine fair value of the undelivered performance obligations the arrangement is being accounted for as a single unit of accounting and the upfront payments are recognized as revenue over the estimated period of when the performance obligations are performed. In addition, revenues are

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

recognized only when the Company has a contractual right to receive payments, the contract price is fixed or determinable and the collection of the resulting receivable is reasonably assured.

Whenever the Company determines that an arrangement should be accounted for as a single unit of accounting, it must determine the period over which the performance obligations will be performed and revenue will be recognized.

As the Company can reasonably estimate when the performance obligations cease or become inconsequential and the performance obligations are provided on a best-efforts basis, the total payments under the arrangement, excluding royalties and payments contingent upon achievement of substantive milestones, are recognized as revenue on a straight-line basis over the period the Company expects to complete its performance obligations.

Significant management judgment is required in determining the period over which the Company is expected to complete its performance obligations under the arrangement. In addition, as the Company is involved in joint steering and research committees as part of this multiple element arrangement that is accounted for as a single unit of accounting. The Company assesses whether its involvement constitutes a performance obligation or a right to participate. Because Pfizer has acknowledged that the Company can be released from its joint steering and research committees anytime upon request and without penalty, such services are considered inconsequential or perfunctory and are not considered to be performance obligations.

This collaboration agreement also contains milestone payments. During the period in which the Company has research performance obligations, milestone payments are considered to be substantive. Substantive milestone payments are considered to be performance bonuses that are recognized upon achievement of the milestone only if all of the following conditions are met:

- the consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement to the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone.
- The consideration relates solely to past performance.
- The consideration is reasonable relative to all of the deliverables and payment terms (including other potential milestone consideration) within the arrangement.

Reimbursement of costs is recognized as revenue on a gross basis as costs are being incurred in accordance with the provisions of ASC 605-45 provided the amounts are determinable, and collection of the related receivable is reasonably assured.

Development services to Pfizer:

In 2008, the Company started to generate revenue from providing professional services and assistance to Pfizer on a time-and-materials basis (see also Note 3a). Under this contract, the Company is reimbursed for labor costs at negotiated monthly billing rates per employee as well as being reimbursed for costs paid by the Company to third parties in performing the service. This service contract is not in the scope of ASC 605-35 and, accordingly, revenue is recognized as services are performed, provided that evidence of an arrangement has been obtained, fees are fixed and determinable and collectability is reasonably assured.

For more details about the collaboration with Pfizer, see Note 3a.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

Other short-term service agreements:

Under certain short-term fixed-price service contracts, the Company agrees to perform limited research services using its technology and research platforms for a fixed price. Under these agreements, revenue is deferred until the Company completes its milestone performance obligations.

Deferred revenue:

Deferred revenue is recognized for payments received in advance of the culmination of the earnings process. Deferred revenue is expected to be recognized within the next twelve months.

Cost of revenue:

Cost of revenues includes direct and allocated expenses that are associated with the clinical development-related services to third parties. All such costs are expensed as incurred.

k. Research and development costs:

Research and development costs, including direct and allocated expenses, consist of independent research and development costs, royalties and license fees to third parties and costs associated with collaborative research and development arrangements. All such costs are expensed as incurred.

l. Accounting for stock-based compensation:

1. The Company accounts for stock-based compensation in accordance with ASC 718-10, "Compensation — Stock Compensation". ASC 718-10 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 the Company's consolidated statements of operations.

   The Company recognizes compensation costs net of a forfeiture rate only for those shares expected to vest on straight-line basis over the requisite service period of the award, which is generally the option vesting term of four years. ASC 718-10 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 Company selected the Black-Scholes option-pricing model as the most appropriate fair value method for its stock-option awards. The option-pricing model requires a number of assumptions, of which the most significant are the expected stock price, volatility and the expected option term.

   The computation of expected volatility is based on actual historical stock price volatility of competitive companies. Expected life of options granted is calculated using the simplified method, as defined in SAB 107 and reaffirmed in SAB 110, "Share-Based Payments", as the average between the vesting period and the contractual life of the options. The Company currently uses the simplified method as adequate historical experience is not available to provide a reasonable estimate. The risk-free interest rate is based on the U.S. Treasury yield curve with an equivalent term to the expected life of the options, in effect at the time of grant. The Company has historically not paid dividends and has no foreseeable plans to pay dividends and, therefore, use an expected dividend yield of zero in the option pricing model.

2. The Company applies ASC 718-10 and ASC 505-50, "Equity-Based Payments to Non-Employees", with respect to options and warrants issued to non-employees. ASC 718-10 and ASC 505-50, require the use of option valuation models to measure the fair value of the options and warrants at the measurement date.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

m. Fair value of financial instruments:

The following methods and assumptions were used by the Company in estimating their fair value disclosures for financial instruments:

The carrying amounts of cash and cash equivalents, other receivables, trade payables and other payables approximate their fair value due to the short-term maturity of such instruments.

The Company adopted the provision of ASC 820, "Fair Value Measurements and Disclosures" on January 1, 2008. ASC 820 defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, the Company considers the principal or most advantageous market in which it would transact and consider assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of nonperformance.

ASC 820 also establishes a fair value hierarchy that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

ASC 820 establishes three levels of inputs that may be used to measure fair value:

Level 1 — quoted prices in active markets for identical assets or liabilities;

Level 2 — inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; or

Level 3 — unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The changes in Level 3 liabilities measured at fair value on a recurring basis are summarized as follows:

	Fair value of warrants
Balance at December 31, 2009	$ —
Fair value of warrants at issuance date	335
Net change in fair value of warrants	156
Balance at June 30, 2010 (unaudited)	$ 491

n. Basic and diluted net earning (loss) per share:

The Company applies the two class method as required by ASC 260-10, "Earnings Per Share". ASC 260-10 requires the income or loss per share for each class of shares (Common and Preferred stock) to be calculated assuming 100% of the Company's earnings are distributed as dividends to each class of shares based on their contractual rights.

According to the provisions of ASC 260-10, the Company's series of Preferred stock and warrants for Preferred stock are not participating securities in losses and, therefore, are not included in the computation of net earning (loss) per share.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

Basic and diluted net income or loss per share, are computed based on the weighted average number of shares of Common stock outstanding during each year. Diluted net income or loss per share is computed based on the weighted average number of shares of Common stock outstanding during the period, plus dilutive potential shares considered outstanding during the period, in accordance with ASC 260-10.

For the years ended December 31, 2007, 2008 and 2009 and for the six months ended June 30, 2010 (unaudited), all outstanding Convertible Preferred stock, options and warrants have been excluded from the calculation of the diluted loss per share since their effect was anti-dilutive.

Basic and diluted pro forma net income or loss per share (unaudited), as presented in the statements of operations, have been calculated as described above and also give effect to the automatic conversion of all series of Preferred stock, that will occur upon closing of the Initial Public Offering ("IPO").

The following table presents the calculation of pro forma basic and diluted net income or loss per share:

1. Numerator:

	Six months ended June 30, 2010	Year ended December 31, 2009
	Unaudited	
Net loss to Common stock as reported	$ (11,714)	$ (19,641)
Reverse changes of redemption value of series H preferred stock	1,368	—
Net loss available to Common stock – pro forma	$ (10,346)	$ (19,641)

2. Denominator:

a) Basic:

	Six months ended June 30, 2010	Year ended December 31, 2009
	Unaudited	
	Number of shares	
Weighted average number of shares of Common stock	3,388,530	3,388,119
Effect of weighted average potential shares of Common stock assumed from conversion of Preferred stock	16,184,989	15,696,100
Denominator for pro forma basic net loss per share of Common stock	19,573,519	19,084,219

b) Diluted:

Weighted average number of shares of Common stock for basic loss per share	19,573,519	19,084,219
Denominator for pro forma diluted net loss per share of Common stock	19,573,519	19,084,219

o. Derivatives instruments:

ASC 480-10, "Distinguishing Liabilities from Equity" requires warrants convertible to redeemable shares to be classified as liability even though the underlying shares may be classified as equity under other accounting guidance. As a result of ASC 480-10, the Company's warrants convertible to series H Redeemable Preferred stock were classified as liability and marked to fair value at each reporting date.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

p. Unaudited pro forma stockholders' equity:

The Company's Board has authorized the filing of a Registration Statement with the U.S. Securities and Exchange Commission and with the Israeli Securities Authority to register the Company's Common stock. Upon the closing of the IPO, all of the authorized, issued, and outstanding Preferred stock will be automatically converted into shares of Common stock. Unaudited pro forma stockholders' equity as of June 30, 2010, as adjusted for the assumed conversion of such shares is disclosed in the balance sheet.

The pro forma stockholders' equity as of June 30, 2010 does not reflect the conversion of the outstanding warrants to purchase series H Convertible Preferred stock into Common stock upon the closing of the Company's IPO, since there is no assurance that the warrants will be exercised.

q. Income taxes:

The Company accounts for income taxes in accordance with ASC 740-10, "Income Taxes". ASC 740-10 prescribes the use of the liability method whereby deferred tax asset and liability account balances are determined based on differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company provides a valuation allowance, to reduce deferred tax assets to their estimated realizable value. For the impact of the adoption of an amendment to ASC 740-10, see Note 9h.

Effective January 1, 2007, the Company adopted the provisions of ASC 740, "Accounting for Uncertainty in Income Taxes" ("FIN 48"). ASC 740 clarifies the accounting for uncertainty in income taxes by prescribing a minimum recognition threshold for a tax position taken or expected to be taken in a tax return that is required to be met before being recognized in the financial statements. ASC 740 also provides guidance on measurement, classification, interest and penalties, accounting in interim periods, disclosure and transition.

The adoption of ASC 740 on January 1, 2007, had no impact on the Company's financial statements and no adjustments of accruals for tax contingencies were recorded.

r. Concentration of credit risks:

Financial instruments that potentially subject the Company and its subsidiary to concentration of credit risk consist principally of cash and cash equivalents.

Cash and cash equivalents are deposited in major banks or financial institutions in the U.S. and Israel. Such deposits in the U.S. may be in excess of insured limits and are not insured in other jurisdictions. Generally, these deposits may be redeemed upon demand and, therefore, bear minimal risk.

The Company has no off-balance-sheet concentration of credit risk such as foreign exchange contracts, option contracts or other foreign hedging arrangements.

s. Retirement plans and severance pay:

The Company sponsors a 401(k) retirement savings plan covering all of its U.S. employees. Each eligible employee may contribute a portion of its eligible compensation to the plan. The Company will match this contribution up to an amount of 4% of an employee's eligible compensation.

The Company's contributions to the plan were approximately $57, $97 and $120 for the years ended December 31, 2007, 2008 and 2009, respectively. As of June 30, 2010, the Company's contributions to the plan were approximately $68 (unaudited).

The liability of the Company's Israeli subsidiary for severance pay which are not under section 14 is calculated pursuant to Israel's Severance Pay Law, based on the most recent salary of the employees

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

multiplied by the number of years of employment as of the balance sheet date. Employees of the subsidiary are entitled to one month's salary for each year of employment or a portion thereof.

The subsidiary's liability for all of its employees is fully provided by monthly deposits with severance pay funds and insurance policies and by an accrual. The value of these policies is recorded as an asset in the Company's consolidated balance sheets.

The deposited funds may be withdrawn only upon the fulfillment of the provisions of Israel's Severance Pay Law or labor agreements. The value of the deposited funds is based on the cash surrendered value of these policies and includes immaterial interest income.

As of June 30, 2010, most of the subsidiary's employees, arrangements are under section 14 to the Israeli Severance Pay Law, 1963, pursuant to which the severance pay liability is fully covered by the deposits with the severance pay funds. Regarding employees that have signed section 14, related obligation and amounts deposited on behalf of such obligation are not stated on the balance sheet as they are legally released from obligation to such employees once the deposited amounts have been paid.

Severance pay expenses for the years ended December 31, 2007, 2008 and 2009 amounted to $225, $269 and $292, respectively. For the six months ended June 30, 2010, severance pay expenses amounted to $142 (unaudited).

t. Recently issued accounting pronouncements:

In October 2009, the FASB issued an update to ASC Topic 605-25, "Revenue recognition- Multiple-Element Arrangements", that provides amendments to the criteria for separating consideration in multiple-deliverable arrangements: (i) establishing a selling price hierarchy for determining the selling price of a deliverable. The selling price used for each deliverable will be based on vendor-specific objective evidence if available, third-party evidence if vendor-specific objective evidence is not available, or estimated selling price if neither vendor-specific objective evidence nor third-party evidence is available. A vendor will be required to determine its best estimate of selling price in a manner that is consistent with that used to determine the price to sell the deliverable on a standalone basis; (ii) eliminating the residual method of allocation — requires that arrangement consideration be allocated at the inception of the arrangement to all deliverables using the relative selling price method, which allocates any discount in the overall arrangement proportionally to each deliverable based on its relative selling price and (iii) requiring expanded disclosures of qualitative and quantitative information regarding application of the multiple-deliverable revenue arrangement guidance. The mandatory adoption is on January 1, 2011. The Company may elect to adopt the provisions prospectively to new or materially modified arrangements beginning on the effective date or retrospectively for all periods presented. The provision of the standard state that if the Company will adopt the standard in 2010, it will have to retroactively adjust prior interim financial statements in 2010. The Company is currently assessing the early adoption provisions in the standard. The Company does not expect the adoption to have material impact on its historical consolidated financial statements.

In March 2010, the FASB issued an additional update to ASC 605 (ASU 2010-17, "Revenue Recognition-Milestone Method"), which provides guidance related to revenue recognition that applies to arrangements with milestones relating to research or development deliverables. ASU 2010-17 provides criteria that must be met to recognize consideration that is contingent upon achievement of a substantive milestone in its entirety in the period in which the milestone is achieved. ASU 2010-17 is effective for interim and annual periods beginning after June 15, 2010. Early adoption is permitted. The Company adopted ASU 2010-17 on August 1, 2010. The adoption of ASU 2010-17 did not have any material impact on the Company's financial position, results of operations or cash flows.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES – (continued)

In July 2010, the FASB issued ASU 2010-20, "Disclosures about the Credit Quality of Financing Receivables and the Allowance for Credit Losses". ASU 2010-20 is an update of Accounting ASC 310, "Receivables". This update requires enhanced disclosures on a disaggregated basis about:

- The nature of the credit risk inherent in the portfolio of financing receivables
- How that risk is analyzed and assessed in arriving at the allowance for credit losses
- The changes and reasons for those changes in the allowance for credit losses

The disclosures required under ASU 2010-20 as of the end of a reporting period are effective for interim and annual reporting periods ending on or after December 15, 2010. Disclosures about activity that occurs during a reporting period are effective for interim and annual reporting periods beginning on or after December 15, 2010. The Company is currently evaluating the impact of ASU 2010-20 on the consolidated financial statements.

NOTE 3:- MAJOR RESEARCH AND DEVELOPMENT COLLABORATIONS

a. In September 2006, the Company entered into a license agreement with Pfizer Inc. ("Pfizer") whereby it licensed Pfizer, under its specific patent rights and technologies, the exclusive worldwide rights to develop and commercialize the RNAi technology based molecules derived from and inhibiting its proprietary target gene RTP801 for ophthalmic indications and non-ophthalmic indications.

Pursuant to the agreement, Pfizer is responsible for all preclinical and clinical development costs of the licensed products, as well as all regulatory filings and approvals. The parties will share oversight of development through product-specific committees, but ultimately Pfizer has decision-making authority. According to the agreement, during a transition period the Company is continuing to conduct preclinical and clinical development of certain product candidates for ophthalmic and non-ophthalmic indications, with funding by Pfizer.

Pfizer will be responsible for manufacturing all product candidates for preclinical and clinical development and for commercial supply. Pfizer is also responsible for commercializing all product candidates licensed under the agreement, but has agreed to appoint the Company as exclusive distributor in Israel of products developed under the agreement.

In connection with the agreement, Pfizer paid the Company during 2006 approximately $14,860 in upfront fees and reimbursement of on-going research and development expenses that were incurred after effectiveness of the agreement. As described in Note 2, the Company recognized revenue from upfront fees on a straight-line basis over the period the Company expects to complete its performance obligations, which was the transition period. The transition period, under the original agreement, ended on January 25, 2008.

In 2007, the Company recognized revenues of $10,300 from a milestone payment that is related to the start of a Phase I study for the first licensed product for the first ophthalmic use. In addition, the Company recognized $6,376 of revenues related to reimbursement of on-going research and development expenses and $11,162 related to the amortization of the upfront payment that is being deferred.

During the year ended December 31, 2008, the Company recognized revenues of $12,900 from a milestone payment that was received as a result of the second development milestone achievement in the clinical program for its siRNA drug RTP801i-14 in development for the treatment of ocular diseases. In accordance with the Company's arrangements with Silence Therapeutics (formerly: Atugen AG) and Alnylam (refer to Note 8), the milestone payment triggered payments of a total of $2,285 (recorded in research and development expenses).

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 3:- MAJOR RESEARCH AND DEVELOPMENT COLLABORATIONS – (continued)

In 2008, as part of the initiation by Pfizer of patient dosing in a Phase II clinical trial evaluating RTP801i-14 in patients with diabetic macular edema (DME), the Company and Pfizer amended the September 2006 License Agreement to clarify certain responsibilities of the Company in connection with the current Phase I/IIa and subsequent Phase II clinical studies commenced by Pfizer. In accordance with the Amendment, the Company will provide Pfizer with various clinical development-related services and assistance in connection with certain Pfizer-sponsored clinical trials for RTP801i-14. Under this amendment, the Company is reimbursed for labor costs at negotiated monthly billing rates per employee as well as being reimbursed for costs paid by the Company to third parties in performing the service.

Pfizer may terminate the agreement without cause at any time upon prior written notice. If not terminated, the agreement will remain in effect in each country at least until the later of expiration of all relevant patents or ten years from the first commercial sale of the licensed product in such country.

In addition to the above mentioned milestone payment, the Company recognized during 2008, revenues of $3,617 related to reimbursement of on-going research and development expenses and $698 related to the amortization of the upfront payment.

During the year ended December 31, 2009, the Company recognized revenue of $2,596 from development services.

During the six months ended June 30, 2010, the Company recognized revenue of $971 (unaudited) from development services.

b. On October 14, 2009, the Company entered into a collaboration agreement with Nitto Denko Corporation ("Nitto Denko"), a Japanese company. The Company has generated a total of $260 revenue from this 2009 agreement. During 2009, $65 was recorded as deferred revenue. The entire $260 was recognized as revenue during the six months ended June 30, 2010.

Subsequent to the balance sheet date, in July 2010, the Company entered into a new license and collaboration agreement with Nitto Denko for the development of siRNA therapeutics for the treatment of fibrotic diseases, pursuant to which the Company granted a license to Nitto Denko to use its siRNA-related intellectual property to develop, manufacture, and commercialize siRNA therapeutics directed against specific target genes. According to the agreement, the Company will use its siRNA technologies and intellectual property in certain initial research activities for development of these therapeutics through the submission of the first IND application in the United States. Nitto Denko will provide financial support for this initial research and will be responsible for the remaining development and for the worldwide commercialization of any resulting product. Nitto Denko will provide financial support for the Company's initial research, and the Company is entitled to receive milestone payments, payments upon sublicensing by Nitto Denko to a third party, and royalties on future sales of licensed products. The milestone payments and sublicensing payments will be negotiated by the parties in the future. Subsequent to the balance sheet date, the Company received research and development funding of $2,200 from this 2010 agreement with Nitto Denko.

c. In August 2010, the Company signed an Option Agreement with Novartis International Pharmaceuticals Ltd. ("Novartis") granting to Novartis an option to obtain an exclusive worldwide license to develop and commercialize QPI-1002 for the prevention of acute kidney injury (known also as acute renal failure) and for treatment of delayed graft function in kidney transplant patients. In October, 2010, the Company will receive initially a non-refundable $10,000 option fee. In the event that Novartis exercises the option following certain obligations to be completed by the Company, the Company would receive option exercise fees and payments upon the achievement of successful development, regulatory and commercial milestones as well as royalties on sales of the licensed products.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 3:- MAJOR RESEARCH AND DEVELOPMENT COLLABORATIONS – (continued)

In September, 2010, Silence Therapeutics asserted that it is entitled to a payment of a $2,000 fee arising from the execution of the Novartis agreement, and has indicated an intention to terminate its agreement with the Company if it does not make this payment. The Company believes Silence's claim has no merits.

NOTE 4:- OTHER RECEIVABLES AND PREPAID EXPENSES

	June 30, 2010	December 31, 2009	December 31, 2008
	Unaudited		
Prepaid expenses	$ 411	$ 337	$ 360
Government authorities	213	170	37
Deferred tax assets	161	187	904
Employees	22	18	21
Others	75	10	58
	$ 882	$ 722	$ 1,380

NOTE 5:- RELATED PARTIES

a. In 1997, the Company granted a loan to its CEO. As of January 1, 2007, the balance of the loan was $560. According to the previous terms of the loan, the entire amount of principal plus any accrued interest was to be forgiven in certain events as described in the agreement, including: (i) an IPO of the Company's Common stock with aggregate proceeds of at least $75,000; (ii) if the Company will enter into significant collaboration agreement with a major U.S. or European based pharmaceutical company, as defined in the agreement; (iii) the CEO's death during the term of the loan, or (iv) the CEO becomes "permanently disabled" during the term of the loan.

The annual interest rate was 4.38%. The principal amount increased to include all accrued and unpaid interest at the date of the amendment. The maturity date of the loan was January 2007, however, in November 2006, the Company's Board decided to amend the second criterion for forgiveness of the loan to say that 50% of the loan principal and the accrued interest will be waived effective upon and subject to the actual cash receipt by the Company of the Pfizer Phase I milestone payment. In addition, the Company decided to pay on behalf of the CEO any additional amount necessary in order to cover the taxes owed by the CEO on such forgiveness of 50% of the loan.

In March 2007, the Company received the above milestone payment and consequently 50% of the outstanding amount was waived. In addition, it was resolved to waive the remaining 50% of the loan in March 2007 in connection with the filing of a registration statement with the U.S. Securities and Exchange Commission. For the second portion of the loan waiver, the Company did not take upon itself to pay income tax on behalf of the CEO. As a result of these waivers, the Company recorded $823 as general and administrative expenses during 2007.

b. In January 2008, the Company granted a new loan in the amount of $150 (principal amount) to its CEO. The loan bears annual interest at the rate of 3.18% on the principal amount. The principal plus the accrued interest on this loan is due on January 8, 2011.

During the first quarter of 2009, the Company's Board decided to decrease the annual interest rate to 0.81%, that represents market interest rate.

In September 2010, the Company's Board decided to forgive the CEO the entire loan, including the accrued interest.

QUARK PHARMACEUTICALS, INC.

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NOTE 5:- RELATED PARTIES – (continued)

NOTE 6:- PROPERTY AND EQUIPMENT

	June 30, 2010	December 31, 2009	December 31, 2008
	Unaudited		
Cost:			
Machinery and equipment	$ 5,895	$ 5,818	$ 5,836
Office furniture and equipment	850	851	858
Motor vehicles	3	3	3
Leasehold improvements	636	631	618
	7,384	7,303	7,315
Accumulated depreciation:			
Machinery and equipment	5,591	5,533	5,434
Office furniture and equipment	654	634	612
Motor vehicles	3	3	3
Leasehold improvements	622	615	583
	6,870	6,785	6,632
Depreciated cost	$ 514	$ 518	$ 683

Depreciation expenses were $485, $330 and $233 for the years ended December 31, 2007, 2008 and 2009, respectively. As of June 30, 2010, depreciation expenses were $89 (unaudited).

NOTE 7:- OTHER PAYABLES AND ACCRUED EXPENSES

	June 30, 2010	December 31, 2009	December 31, 2008
	Unaudited		
Employees and payroll accruals	$ 1,250	$ 1,014	$ 1,111
Accrued expenses	393	390	527
	$ 1,643	$ 1,404	$ 1,638

NOTE 8:- COMMITMENTS AND CONTINGENT LIABILITIES

a. The facilities of the Company and its Israeli subsidiary are leased under various operating lease agreements for periods ending no later than 2011. The Company also leases motor vehicles under various operating leases, which expire on various dates, the latest of which is in 2013.

Future minimum lease payments under non-cancelable operating leases as of December 31, 2009, are as follows:

As of December 31,	
2010	$ 495
2011	85
2012	6
2013	1
	$ 587

Rent expenses for the years ended December 31, 2007, 2008 and 2009 were $583, $720 and $708, respectively. For the six months ended June 30, 2010, rent expenses were $309 (unaudited).

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 8:- COMMITMENTS AND CONTINGENT LIABILITIES – (continued)

As of June 30, 2010, the Israeli subsidiary has provided guarantees for the fulfillment of the lease commitments in the approximate amount of $262. The Company pledged a bank deposit in the same amount to secure the guarantees.

b. In December 2004, the Company and Silence Therapeutics (formerly: Atugen AG) entered into a collaboration related to the RTP801 gene discovered by the Company. This agreement grants the Company an exclusive, royalty-bearing, worldwide license to develop, manufacture and commercialize products inhibiting this gene for any human therapeutic indication except oncology, based on Silence Therapeutics' proprietary RNA interference technology. In addition, the Company granted Silence Therapeutics a royalty-bearing license to develop oncology applications for RTP801.

This agreement was amended in September 2006, in connection with the Pfizer license agreement (see Note 3a). Under the amendment, the Company sublicensed to Pfizer its rights under the license from Silence Therapeutics. This amendment clarified the payment arrangements among the parties, terminated the license granted to Silence Therapeutics in 2004 for oncology applications, and provided for a direct license from Silence Therapeutics to Pfizer in the event of termination of the Pfizer agreement. Under the amended Silence Therapeutics collaboration agreement, the Company will pay Silence Therapeutics a percentage of the receipts from Pfizer under the Pfizer agreement, including milestone and royalty payments, but excluding payments specifically committed to cover research and development costs.

In April 2005, the Company entered into a second agreement with Silence Therapeutics, pursuant to which Silence Therapeutics granted to the Company the right to receive options to non-exclusive licenses to Silence Therapeutics' RNAi-related intellectual property to develop and commercialize siRNA product candidates based on a specified number of target genes as defined in the agreement. The Company can purchase an option for a target gene upon payment of an option fee. Thereafter, the Company may exercise each option within certain time limits upon payment of an additional fee to license the relevant Silence Therapeutics intellectual property to the target gene. According to the agreement, if the Company exercises any of its options, it will be required to make development milestone payments based on the progress of clinical trials and regulatory approval of licensed products in the U.S., Japan and Europe. In addition, the Company is required to pay royalties on sales of licensed products as defined in the agreement.

This agreement was amended again in July 2007 to provide the Company with additional options to acquire non-exclusive licenses to the Silence Therapeutics RNAi technology for an additional number of target genes of the Company. In accordance with this amendment, the Company may select the target within a set period of time and upon selection it is required to pay an option fee. Upon exercising the option within the set time limit, Silence Therapeutics is entitled to a license fee as well as development milestone payments and royalties on sales of the final product developed.

As of December 31, 2009, the Company had purchased and exercised an option for one target gene. During the years ended December 31, 2007, 2008 and 2009, the Company paid or accrued $2,305, $1,935 and $0, respectively with respect to these agreements. The related charges were recorded as research and development expenses. For the six months ended June 30, 2010, the Company had neither paid nor accrued any amounts with respect to these agreements (unaudited).

c. In conjunction with the Pfizer license agreement in September 2006, the Company entered into a set of license agreements with Alnylam Pharmaceuticals, Inc. ("Alnylam"). Pursuant to these agreements, Alnylam granted the Company non-exclusive worldwide licenses under three families of patents and patent applications owned or controlled by Alnylam. Each agreement is specific to one of the Company's target genes and to certain therapeutic fields, including all indications contemplated for these target genes. The Company sublicensed its rights under the RTP801 Alnylam agreements to Pfizer in the September 2006 license agreement with Pfizer.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 8:- COMMITMENTS AND CONTINGENT LIABILITIES – (continued)

Pursuant to the terms of the license agreements, through December 31, 2006, the Company paid Alnylam upfront fees totaling $800. The agreements provide for annual maintenance fees in the amount of $72 and up to $7,300 in additional development and product development milestone payments. The Company is also required to pay royalties on sales. The royalty rates vary based on which patent families cover the products sold. In the years ended in December 31, 2007, 2008 and 2009, the Company paid or accrued $272, $422 and $72, respectively. For the six months ended June 30, 2010, the Company paid or accrued $36 (unaudited).

d. In September 1999, the Company and the University of Illinois at Chicago ("University of Illinois") entered into an exclusive worldwide license under certain University of Illinois patents and patent applications related to a target gene of the Company and small molecule inhibitors thereof, for all uses and indications. Under the agreement, as amended in March 2007 and again in December 2009, the Company may be required to pay University of Illinois a future royalty calculated as certain percentages of sales of licensed products by the Company and a share of any sublicensing revenues as defined in the agreement. As of June 30, 2010, the Company has not granted any sublicenses under this license agreement, but in August 2010 the Company granted Novartis an option to obtain an exclusive sublicense through the Company's option agreement with Novartis.

e. In January 2010, the Company and Dharmacon, Inc., a wholly owned subsidiary of Thermo Fisher Scientific Inc. ("Dharmacon"), entered into an exclusive worldwide license under certain Dharmacon patents and patent applications, related to certain siRNA molecules and their use for the inhibition of a specific target gene, for all uses and indications. Under the agreement, the Company is required to pay certain milestone payments upon achievement of development milestones as well as certain percentages of sales of licensed products by the Company and a share of any sublicensing revenues as defined in the agreement. As of June 30, 2010, the Company has not granted any sublicenses under this license agreement (unaudited), but in August 2010 the Company granted Novartis an option to obtain an exclusive sublicense through the Company's option agreement with Novartis.

f. In addition to the agreements above, the Company is a party to a number of research agreements with institutions and companies for the license and use of their know-how. Such agreements may obligate the Company in the future to pay royalties and/or milestone payments on future products it may develop. The Company's obligations are contingent upon the potential success of certain current research activities and they are contingent upon developing drugs candidates based on such intellectual property for the Company's pipeline. As of June 30, 2010, none of the above projects has reached the stage where royalties and/or milestone payments should have been paid or accrued.

g. The Israeli subsidiary is obligated to pay royalties to the Israel-United-States Bi-National Industrial Research and Development Foundation ("BIRD-F"), of 3% to 7% of sales proceeds from products arising from research and development funded by grants in accordance with the terms of the respective agreement. The maximum amount of royalties payable to BIRD-F is limited to 150% of the grants received, adjusted based on the U.S. Consumer Price Index.

As of June 30, 2010, the subsidiary's contingent royalty obligation to BIRD-F is $1,001 and could reach up to an amount of $1,556.

Successful development of the funded projects was not assured at the time the funds were received. Furthermore, the Company's obligation to pay royalties is contingent on actual sales of the products and is not required in the absence of such sales

As of June 30, 2010, the Company did not accrue or pay any royalties to BIRD-F.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 8:- COMMITMENTS AND CONTINGENT LIABILITIES – (continued)

h. Royalty commitments to the Chief Scientist:

The Israeli subsidiary participates in programs sponsored by the Chief Scientist of the Government of Israel, for the support of research and development projects. In exchange for the Chief Scientist's participation in the programs, the subsidiary is required to pay royalties of 3% to 5% of sales of products developed with funds provided by the Chief Scientist, up to a dollar-linked amount equal to 100% of the Chief Scientist's research and development grants related to such projects. The subsidiary's obligation to pay royalties is contingent on actual sales of the products and is not required in the absence of such sales.

Royalty expenses were immaterial for each of the three years in the period ended December 31, 2009 and for the six months ended June 30, 2010.

As of December 31, 2009 and June 30, 2010 (unaudited), the subsidiary had a remaining contingent obligation to pay royalties in the amount of approximately $1,197 (excluding accrued interest) upon the successful sale of products derived from such research and development.

i. On August 16, 2009, the Company's Board decided to adopt a cost reduction plan that included reduction by a certain percentage of each employee's salary up to 20%, starting September 1, 2009 for a limited period of six months. The overall reduction of compensation in that period amounted to $595. The Board further approved that upon certain future events that include proceeds to the Company, the employees will recoup from the Company the amount of such reduction.

The Company paid during the six months ended June 30, 2010, $150 to employees to compensate them for the reduction of their salaries pursuant to the reduction plan. As of June 30, 2010 (unaudited), there is no accrual for any such recoupment payment.

NOTE 9:- INCOME TAXES

The Company and its Israeli subsidiary are separately taxed under the domestic tax laws of the state of incorporation of each entity. QMI is included in the Company's consolidated tax returns.

Israeli subsidiary:

a. Measurement of taxable income under the Income Tax (Inflationary Adjustments) Law, 1985:

Through 2007, results for tax purposes of the Israeli subsidiary were measured in terms of earnings in New Israeli Shekels after certain adjustments for increases in the Israeli CPI. As explained in Note 2c, the financial statements are measured in U.S. dollars. The difference between the annual change in the Israeli CPI and in the New Israeli Shekels/dollar exchange rate causes a further difference between taxable income and the income before taxes shown in the financial statements. In accordance with paragraph 9(f) of ASC 740, the Company has not provided deferred income taxes on the difference between the functional currency and the tax bases of assets and liabilities.

In February 2008, the Knesset passed an amendment to the Income Tax (Inflationary Adjustment) Law, 1985, which limits the scope of the law starting in 2008 and thereafter. Beginning in 2008, the results for tax purposes are measured in nominal values, excluding certain adjustments for changes in the Consumer Price Index carried out in the period up to December 31, 2007. The amended law includes, inter alia, the elimination of the inflationary additions and deductions and the additional deduction for depreciation starting in 2008.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 9:- INCOME TAXES – (continued)

b. Tax benefits under the Israeli Law for the Encouragement of Capital Investments, 1959 ("the Law"):

1. According to the Law, the companies are entitled to various tax benefits by virtue of the "beneficiary enterprise" status granted to part of their enterprises, as implied by this Law.

   On April 1, 2005, an amendment to the Law came into effect ("the Amendment") and has significantly changed the provisions of the Law. The Amendment limits the scope of enterprises which may be approved by the Investment Center by setting criteria for the approval of a facility as a beneficiary enterprise, such as provisions generally requiring that at least 25% of the beneficiary enterprise's income will be derived from export. Additionally, the Amendment enacted major changes in the manner in which tax benefits are awarded under the Law so that companies no longer require Investment Center approval in order to qualify for tax benefits.

2. According to the Law, the Israeli subsidiary is entitled to various tax benefits by virtue of the "beneficiary enterprise" status granted to part of its enterprises, as implied by this Law. The principal benefits by virtue of the Law are:

   According to the provisions of the Law and the Amendment, the Israeli subsidiary has chosen to enjoy the "alternative benefits" track. Under this track, the subsidiary is tax exempt in the first two years of the benefit period and subject to tax at the reduced rate of 10% for a period several years in the remaining benefit period.

3. Another condition for receiving the benefits under the alternative track is a minimum qualifying investment. This condition requires an investment in the acquisition of productive assets such as machinery and equipment, which must be carried out within three years. The minimum qualifying investment required for setting up a plant is NIS 300 thousand. As for plant expansions, the minimum qualifying investment is the higher of NIS 300 thousand and an amount equivalent to the "qualifying percentage" of the value of the productive assets. Productive assets that are used by the plant but not owned by it will also be viewed as productive assets. The subsidiary was eligible under the terms of minimum qualifying investment and elected 2008 as its "year of election".

4. The qualifying percentage of the value of the productive assets is as follows:

The value of productive assets before the expansion (NIS in millions)	The new proportion that the required investment bears to the value of productive assets
Up to NIS 140	12%
NIS 140 – NIS 500	7%
More than NIS 500	5%

The income qualifying for tax benefits under the alternative track is the taxable income of a company that has met certain conditions as determined by the Law ("a beneficiary company"), and which is derived from an industrial enterprise. The Law specifies the types of qualifying income that is entitled to tax benefits under the alternative track with respect of an industrial enterprise, whereby income from an industrial enterprise includes, among others, revenues from the production and development of software products and revenues from industrial research and development activities performed for a foreign resident (and approved by the Head of the Administration of Industrial Research and Development).

The benefit period starts with the first year the beneficiary enterprise earns taxable income, provided that 14 years have not passed since the approval was granted and 12 years have not

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NOTE 9:- INCOME TAXES – (continued)

passed since the enterprise began operating. In respect of expansion programs pursuant to Amendment No. 60 to the Law, the benefit period starts at the later of the year elected and the first year a company earns taxable income provided that 12 years have not passed since the beginning of the year of election. The respective benefit period has not yet begun.

The above benefits are conditional upon the fulfillment of the conditions stipulated by the Law, regulations published thereunder and the letters of approval for the investments in the approved enterprises, as above. Non-compliance with the conditions may cancel all or part of the benefits and refund of the amount of the benefits, including interest. The management believes that the subsidiary is meeting the aforementioned conditions.

5. Tax benefit under the Law for the Encouragement of Industry (Taxation), 1969:

Management believes that the subsidiary is currently qualified as an "industrial company" under the above law and as such, enjoys tax benefits, including:

(1) Deduction of purchase of know-how and patents and/or right to use a patent over an eight-year period;

(2) The right to elect, under specified conditions, to file a consolidated tax return with additional related Israeli industrial companies and an industrial holding company;

(3) Accelerated depreciation rates on equipment and buildings; and

(4) Expenses related to a public offering on the Tel-Aviv Stock Exchange and as of January 1, 2003 on recognized stock markets outside of Israel, are deductible in equal amounts over three years.

c. Tax rates applicable to the income of the Israeli subsidiary:

The rate of the Israeli corporate tax is as follows: 2007 — 29%, 2008 — 27%, 2009 — 26%, 2010 — 25%. Tax at a reduced rate of 25% applies to capital gains arising after January 1, 2003, instead of the regular tax rate. In July 2009, the "Knesset" (Israeli Parliament) passed the Law for Economic Efficiency (Amended Legislation for Implementing the Economic Plan for 2009 and 2010), 2009, which prescribes, among others, an additional gradual reduction in the rates of the Israeli corporate tax and real capital gains tax starting 2011 to the following tax rates: 2011 — 24%, 2012 — 23%, 2013 — 22%, 2014 — 21%, 2015 — 20%, 2016 and thereafter — 18%.

d. Losses for tax purposes:

As of December 31, 2009, the Company had a loss carryforward for federal income tax purposes of $89,254. If not utilized, the loss carryforward will expire in the years 2010 through 2015 and federal research and development tax credits of approximately $2,772 which expire in the years 2011 through 2029.

As of December 31, 2009, the Company had a loss carryforward for state income tax purposes of approximately $37,000. If not utilized, the loss carryforward will expire in the years 2010 through 2015 and state research and development tax credits of approximately $204 which do not expire.

Utilization of U.S. loss carryforward 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 limitations may result in the expiration of losses before utilization.

The Company has not, as yet, conducted a study of its research and development credit carryforward. This study may result in an adjustment to the Company's research and development credit carryforward, however, until a study is completed and any adjustment is known, no amounts

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 9:- INCOME TAXES – (continued)

are being presented as an uncertain tax position under ASC 740. A full valuation allowance has been provided against the Company's research and development credits and, if an adjustment is required, this adjustment would be offset by an adjustment to the valuation allowance. Thus, there would be no impact on the consolidated balance sheets or statements of operations if an adjustment is required.

e. Deferred income taxes:

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets are as follows:

	December 31,	
	2009	2008
Deferred tax assets:		
Loss carryforward	$ 32,839	$ 25,326
Temporary differences – accrued vacation pay and severance pay and other reserves	6,860	5,293
Deferred tax assets before valuation allowance	39,699	30,619
Valuation allowance	(39,477)	(29,710)
Deferred tax asset	$ 222	$ 909

Net operating loss carryforward as of December 31, 2009 is as follows:

Israel	$ 472
US	$ 129,230

Net operating losses in Israel may be carried forward indefinitely.

The Company has provided a valuation allowance in respect of deferred tax assets resulting from the tax loss carryforward. Management currently believes that it is more likely than not that the deferred tax regarding these tax loss carryforward and other temporary differences will not be realized.

The Israeli subsidiary recorded deferred tax assets in the amount of approximately $0, $909, $222 and $160 (unaudited), for the years ended December 31, 2007, 2008 and 2009 and for the six months ended June 30, 2010, respectively, since it is more likely than not those tax assets will be realized.

f. Income taxes in the Israeli subsidiary are comprised as follows:

	Year ended December 31,		
	2009	2008	2007
Current taxes and reserves	$ (73)	$ 2,576	$ —
Deferred taxes	(87)	(909)	—
	$ (160)	$ 1,667	$ —

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 9:- INCOME TAXES – (continued)

g. Income (loss) before income taxes consists of the following:

	Six month ended June 30,		Year ended December 31,		
	2010	2009	2009	2008	2007
	Unaudited				
U.S.	$ (10,538)	$ (11,335)	$ (20,202)	$ (8,329)	$ 2,157
Israel	347	254	401	864	(1,168)
	$ (10,191)	$ (11,081)	$ (19,801)	$ (7,465)	$ 989

The main reconciling items of the statutory tax rate of the Company (2007 — 29%, 2008 — 27%, 2009 — 26%) to the effective tax rate (29%, 23%, 22%) are valuation allowances provided for deferred tax assets (in all reported periods) and reserves with respect to tax positions.

h. Accounting for uncertainty in income taxes ("ASC 740"):

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	Year ended December 31,	
	2009	2008
Balance at the beginning of the year	$ 2,396	$ 88
Additions based on tax positions taken during a prior period[1]	—	2,308
Reduction related to tax positions taken during a prior period	(88)	—
Reductions related to settlement of tax matters[1]	(2,012)	—
Balance at the end of the year	$ 296	$ 2,396

(1) The Israeli subsidiary was under a tax audit by the Israeli Tax Authority for the 2002 through 2006 tax years. In December 2008, the Company received the initial demand for addition tax payment. Consequently the Company reassessed and changed its estimates with respect to certain tax positions and increased the reserves by $2,308. Out of this amount $774, relates to offset of prior years net operating loss carryforward. In December 2008, the Company received the initial demand for additional tax payment.

In June 2009, the Company and the Tax Authorities reached an agreement under which (a) the Company will pay NIS 4,900 thousand (that is $1,237), plus interest and linkage of approximately NIS 397 thousand (that is $100) in 30 monthly installments and (b) the total of accumulated losses for tax purposes as of December 31, 2006 have been fully deducted.

No audits are currently in process by either the Internal Revenue Service or any state revenue authority and, as of this date, the Company has not been contacted as to any proposed audits of its prior income tax returns. In the U.S., all prior years remain open for audits subject to applicable statutes of limitation which, for federal purposes, is usually three years from the filing date of the return, plus one additional year for state. Due to the Company's losses, generally all years remain open.

NOTE 10:- REDEEMABLE CONVERTIBLE PREFERRED STOCK

a. From March to November 2001, the Company issued 1,143,764 shares of series F Redeemable Preferred stock, for total consideration of $13,725, net of issuance expenses of $70.

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 10:- REDEEMABLE CONVERTIBLE PREFERRED STOCK – (continued)

Except for the redemption rights, refer to the description of the rights, preferences and restrictions of series F Redeemable Preferred stock in Note 11.

Redemption rights — according to the terms of the series F Preferred stock effective March 23, 2006, any holder of series F Preferred stock was entitled to request redemption. The redemption price for each share was equal to the amount derived by dividing the net book asset value of the Company at the redemption date by the total number of shares of capital stock of the Company on a fully diluted basis.

In accordance with ASC 480-10-S99, "Distinguishing Liabilities from Equity" and ASR 268 the Redeemable Preferred stock were classified outside of equity. Changes in the redemption value are recognized immediately as they occur as changes of redemption value of series F Preferred stock and the carrying value of the security is adjusted to equal the redemption amount at the end of each reporting period.

Under the Company's articles of incorporation, the redemption rights terminated following a filing of a registration statement for the IPO of the Company's securities. Consequently, upon filing of the Registration Statement on Form S-1 in March 30, 2007 with the SEC, such rights were terminated and the balance of the series F Preferred stock was reclassified to equity.

Changes to the redemption value of the series F Preferred stock during the first quarter of 2007 (until the termination date) were recorded under the net income (loss) line item in statement of operations and deducted from income available to Common stockholders.

b. On March 19, 2008, the Company signed a stock purchase agreement with new and existing investors. According to the stock purchase agreement, the Company issued to the investors 5,400,000 shares of series H Redeemable Preferred stock at a purchase price of $5 per share in an aggregate amount of $27,000.

The rights, preferences and restrictions of series H Redeemable Preferred stock are as follows:

Dividends — series H Redeemable Preferred stockholders shall be entitled to receive dividends, when and if declared by the Company's Board, at the rate of $0.5 per share per annum. The right to such dividends shall not be cumulative and no right shall accrue to Preferred stockholders by reason of the fact that dividends on such shares are not declared in any prior year.

Liquidation preference — series H Redeemable Preferred stockholders shall be entitled to receive prior and in preference to any distribution of any of the assets or surplus funds of the Company to other Preferred and Common stockholders by reason of their ownership of series H Redeemable Preferred stock, the amount equal to the sum of $6 per share for each share of series H Redeemable Preferred stock.

Voting rights — each holder of a share of series H Redeemable Preferred stock shall be entitled to one vote.

Conversion — each share of series H Redeemable Preferred stock is convertible, at the holder's option, or automatically upon a qualified Initial Public Offering ("IPO") of the Company as defined in the Company' articles of incorporation. Each share of series H Redeemable Preferred stock is convertible on a one-for-one basis.

Redemption rights — at any time following the date that is 30 months after the Series H original issue date, the holders of at least 75% of the series H Preferred stock may request redemption. The shares are redeemable at $5 per share. The redemption rights will terminate upon the earlier of (i) the conversion of all of the series H Redeemable Preferred stock and (ii) the closing of a

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 10:- REDEEMABLE CONVERTIBLE PREFERRED STOCK – (continued)

qualified IPO as defined in the articles of incorporation. The Company shall redeem the series H Preferred stock within 30 days from the date of the redemption notice through cash payment of the series H redemption price in two equal annual installments.

Anti-dilution — the series H Redeemable Preferred stock is subject to certain anti-dilution provisions as outlined in the Company's articles of incorporation.

In accordance with ASC 480-10-S99, "Distinguishing Liabilities from Equity" and ASR 268 the Redeemable Preferred stock were classified outside of equity. Changes in the redemption value are recognized immediately as they occur as changes of redemption value of series H Preferred stock and the carrying value of the security is adjusted to equal the redemption amount at the end of each reporting period. series H Convertible Preferred stock are presented at their redemption value.

On May 17, 2010, the Company raised $10,000 from certain former investors of the series H Convertible Preferred stock through the issuance of 2,000,000 additional shares of series H Convertible Preferred stock and warrants to purchase 300,000 shares of series H Convertible Preferred stock. The exercise price for the warrants is $5 per share and they will expire five years after the date of their issuance. The series H Convertible Preferred stock issued in 2010 has the same rights as determined for the original Series H Convertible Preferred stock.

As part of above investment round, the redemption date of the original series H Convertible Preferred stock was extended to August 31, 2011.

The Company accounted for the warrants as a liability marked to fair value at each reporting date. As of the issuance date and June 30, 2010, the fair value of the warrants was measured to be $335 and $491, respectively.

The liabilities were valued using a lattice valuation technique (binomial model) with the following assumptions:

	Issuance date	June 30, 2010
Risk-free interest rate	0.46% – 1.10%	0.32% – 0.61%
Expected volatility	75%	75%
Expected life (in years)	1.7	1.5
Expected dividend yield	0	0
Fair value:		
Warrants	$335	$491

(1) Expected deemed liquidation date — December 31, 2011.

(2) Risk-free interest rate — based on yields of the U.S. Government Treasury bonds with different periods to maturity (according to different projection periods).

(3) Expected volatility — since the Company has different classes of shares and its Preferred stock are not publicly traded, the Company used the volatility of comparable publicly traded companies.

(4) Expected life — the expected life of the conversion feature was based on the term of the loan and the expected life of the warrants was determined by the expected deemed liquidation date.

(5) Expected dividend yield — was based on the fact that the Company has not paid dividends to Common stockholders in the past and does not expect to pay dividends to Common stockholders in the future.

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NOTE 11:- SHARE CAPITAL

Share capital is composed as follows:

	December 31, 2009		December 31, 2008	
	Authorized	Issued and outstanding	Authorized	Issued and outstanding
	Number of shares			
Common stock of $0.001 par value	72,500,000	3,388,530	72,500,000	3,387,330
Series A Preferred stock of $0.001 par value	967,497	967,497	967,497	967,497
Series B Preferred stock of $0.001 par value	4,219,914	4,219,914	4,219,914	4,219,914
Series C Preferred stock of $0.001 par value	1,568,692	1,568,692	1,568,692	1,568,692
Series D Preferred stock of $0.001 par value	5,442,212	5,439,413	5,442,212	5,439,413
Series E Preferred stock of $0.001 par value	2,050,820	2,050,820	2,050,820	2,050,820
Series F Preferred stock of $0.001 par value	1,143,764	1,143,764	1,143,764	1,143,764
Series G Preferred stock of $0.001 par value	10,489,511	10,489,511	10,489,511	10,489,511
Undesignated Preferred stock of $0.001 par value	—	—	—	—
	25,882,410	25,879,611	25,882,410	25,879,611
Total	98,382,410	29,268,141	98,382,410	29,266,941

a. The rights, preferences and restrictions of series A-G Preferred and Common stock are as follows:

Dividends —

1. The holders of the series A, B, C, D, E, F and G Preferred stock shall be entitled to receive dividends, when and if declared by the Company's Board, at the rate of $0.08, $0.08, $0.26, $0.26, $0.64, $0.78 and $0.093 per share, respectively per annum. The right to such dividends shall not be cumulative and no right shall accrue to Preferred stockholders by reason of the fact that dividends on such stock are not declared in any prior year.
2. No dividends shall be paid for the Common stock until dividends have been paid for the Preferred stock. After payment of dividends to Preferred stockholders, Preferred stockholders and Common stockholders shall be entitled to receive any additional dividends as declared by the Company.

Liquidation preference — the holders of series A, B, C, D, E, F and G have a liquidation preference equal to $1.25, $1.25, $4, $4, $9.83 $12 and $1.72, per share, respectively and any declared but unpaid dividends.

Preferred stockholders will be entitled to their liquidation preferences based on their seniority. Series G Preferred stockholders shall be the first to receive their liquidation preferences and they will be followed by the holders of series F, E, D, C, B and A.

Voting rights — each holder of Common stock, series A, B, C, D, E, F and G Preferred stock shall be entitled to one vote.

Conversion — each share of each series of Preferred stock is convertible, at the holder's option, or automatically upon a qualified Initial Public Offering ("IPO") of the Company. Originally each share of Preferred stock was convertible on a 2.9-for-1 basis. Pursuant to the series G Convertible Preferred stock investment round and according to anti-dilution protection rights, the holders of series C, D, E and F Preferred stock are entitled to receive additional shares of Common stock upon conversion (see also b below).

QUARK PHARMACEUTICALS, INC.

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NOTE 11:- SHARE CAPITAL – (continued)

b. Series G Convertible Preferred stock investment round:

In December 2005, the Company entered into the series G Convertible Preferred stock investment agreement with new investors. According to the agreement, the Company issued to the investors in 2005 and 2006 10,489,511 shares of series G Convertible Preferred stock at $1.43 per share. In addition, the investors received warrants, see c below.

The series G Convertible Preferred stock investment round triggered certain anti-dilution protection rights of previous investors. Accordingly, the holders of series C, D, E and F Preferred stock are entitled to receive 148,154, 513,716, 283,066 and 164,369 additional shares of Common stock upon conversion, respectively.

In addition to the above anti-dilution adjustments and in connection with the series G Convertible Preferred stock investment, series C and D Preferred stockholders agreed to terminate warrants to purchase 4,533,141 shares of series C and Convertible Preferred stock that they received as part of their original investments.

In consideration for this termination, the series C and D Preferred stockholders received additional conversion rights, entitling the holders thereof to receive an additional 58,831 and 204,017 shares of Common stock, respectively, in addition to the number of shares that they should have received under their original anti-dilution adjustment provisions.

The waiver of these warrants and the corresponding adjustment to the conversion ratios were made following negotiation between the Company, series C and D Preferred stockholders and the prospective purchasers of the series G Preferred stock in order to induce the prospective purchasers of the series G Preferred stock to invest in the Company by reducing the potential dilutive effect of the outstanding warrants.

Consequently, the Company determined whether any incremental value transferred to the warrants holders as a result of the waiver of the warrants in consideration for the enhanced conversion rights. For that purpose the Company measured the excess of the fair value of the modified series C and D Convertible Preferred stock over the fair value of the series C and D Convertible Preferred stock immediately before the modification. The Company compared this incremental value to the fair value of the warrants that were waived by each warrant holder. According to the Company's analysis, the fair value of the warrants waived substantially exceeded the value of the enhanced conversion rights and, therefore, no charge was recorded as a deemed dividend.

The fair value assigned to the series C and D Convertible Preferred stock and to the warrants was determined primarily by management and the Company's Board. In determining fair value, management has considered a number of factors, including valuations and appraisals. The fair value was primarily determined by using a discounted future cash flow method and option pricing model.

c. Warrants:

In December 2005, as part of the series G Convertible Preferred stock investment agreement, the series G investors received warrants to purchase up to 723,409 shares of Common stock of the Company at $4.147 per share.

As of December 31, 2008, series G warrants were exercised for 687,288 shares of Common stock. The remaining warrants expired during 2008 and 2009.

The Company accounted for these warrants as equity instruments based on the guidance of ASC 815, "Derivatives and Hedging", ASC 480-10, "Distinguishing Liabilities from Equity", its related FASB staff positions, ASC 815-40 and the AICPA Technical Practice Aid for accounting for

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NOTE 11:- SHARE CAPITAL – (continued)

Preferred stock and warrants including the roadmap for accounting for freestanding financial instruments indexed to, and potentially settled in, a company own stock.

In March 2007, the Company extended by six months the exercise period of the series G warrants. The Company recorded $117 for the incremental value that was transferred to the warrants holders as a result of the modification as deemed dividend that is deducted from the income available to Common stockholders.

The Company used the Black-Scholes option-pricing model with the following weighted average assumptions (before/after) at the modification date: risk-free interest rates of 4.75% – 4.8%/ 4.66% – 4.69%, dividend yield of 0%, volatility factors of the expected market price of the Company's Common stock of approximately 46.21%/46.26% and expected life of the options of 1 – 1.33/ 1.5 – 1.83 years.

The fair value assigned to the Common stock in order to calculate the deemed dividend, was determined primarily by management and the Company's Board. In determining fair value, management has considered a number of factors, including valuations and appraisals.

d. Stock Option Plans:

The Company has authorized through its 1997, 2003 and 2007 Equity Incentive Share Option Plans and further increases by the Company's Board, the grant of options to officers, directors, advisors, management and other key employees of up to 1,950,019 shares of the Company's Common stock. The options granted generally have a four-year vesting period and expire 10 years after the date of grant.

During the period through December 31, 2009, the Company's Board approved an increase in shares reserved under the Incentive Plan to an aggregate total reserve of 3,135,530 shares of Common stock. As of December 31, 2009, an aggregate of 561,237 shares were still available for future grant under the Incentive Plan.

The fair value of stock-based awards was estimated using the Black-Scholes option-pricing model for all grants starting January 1, 2007, with the following assumptions for the year ended December 31, 2008 and 2009:

	Year ended December 31,	
	2009	2008
Exercise price	1.1	1.1
Expected term (years)	6.1	6.1
Volatility	65 %	64 %
Risk-free interest rate	1.6 – 2.8%	1.6 %
Dividend yield	0 %	0 %

The Company measures the compensation cost of employee options based on the fair value method as stated in ASC 718-10 "Compensation — Stock Compensation". The computation of expected volatility is based on realized historical stock price volatility of certain public biotechnology companies that the Company considered to be comparable based on market capitalization, drug development phase and type of technology platforms. The Company used the simplified method to establish the expected term of the awards as allowed under SAB 110. The interest rate for periods within the expected term of the award is based on the U.S. Treasury yield curve in effect at the time of grant.

QUARK PHARMACEUTICALS, INC.

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NOTE 11:- SHARE CAPITAL – (continued)

The Company recognizes stock compensation costs net of forfeiture rate for only those shares expected to vest on a straight-line basis over the requisite service period of the award, which is the option vesting term of four years. ASC 718-10 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

As of December 31, 2009 and June 30, 2010, there was an unrecognized compensation cost of $1,655 and $1,151 (unaudited), respectively, related to stock options that is expected to be recognized in future periods.

During 2007, the Company cancelled and re-granted options to purchase126,385 shares in order to provide employees with certain tax benefits according to the Israeli tax reform from 2003. The Company applied for a ruling from the Israeli Tax Authorities and received the formal approval.

On March 24, 2008, the Company repriced options to purchase 463,079 shares of its Common stock. The incremental fair value for these options was estimated using a Black-Scholes option-pricing model with the following weighted-average assumptions: risk-free interest rate of 4.51%, dividend yield of 0%, volatility factors of the expected market price of the Company's Common stock of 57.25%, and contractual life of ten years. The new exercise price is $1.10 per share.

On January 12, 2009, the Company granted options to purchase 50,000 shares of its Common stock to two former Board members as part of their termination arrangements. The options granted have three year exercise terms starting March 2009. The options are fully vested. These options have an exercise price of $1.10 which is based on the fair value of the Company's Common stock on the date of grant, as determined by the Company's Board. The fair value of stock-based awards to employees was estimated using the Black-Scholes option-pricing model with the same assumptions used at the December 29, 2008 grant.

On March 30, 2009, the Company repriced an option to purchase 68,965 shares of its Common stock previously granted to its CEO. As a result, the Company has recognized an additional stock compensation expense of $26.

On May 13, 2009, the Company's Board granted total options to purchase 239,750 shares of its Common stock to its directors. The exercise price for the options granted was $1.10 per share. The vesting periods for these options were as follows: (a) 40,000 shares — 25% vested on April 16, 2009 and the remaining vest on a monthly basis over the next three years; (b) 130,000 shares — 50% vested on May 13, 2009 and the remaining vest on a monthly basis over the next year; (c) 49,750 shares — 25% vested on August 8, 2009 and the remaining vest on a monthly basis over the next three years and (d) 20,000 shares — 25% vested on May 13, 2010 and the remaining vest on a monthly basis over the next three years.

On May 13, 2009, the Company's Board decided that options to purchase an additional 22,500 shares of the Company's Common stock would be granted to three of its directors. Options to purchase 15,000 shares will be granted at the first Board meeting after April 16 of each year and options to purchase 7,500 shares will be granted at the first Board meeting after August 8 of each year, so long as they continue to serve as directors of the Company. Such options were to have a vesting period of 12 months after the date of grant, and will carry an exercise price equal to the fair market value of the Common stock on the date of grant. For accounting purposes, the date of grant for these awards will be at the fulfillment of the above mentioned terms. As of June 30, 2010, no grants were made (see Note 15).

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 11:- SHARE CAPITAL – (continued)

The following is a summary of the status of the Company's stock option grants to its employees:

	Six month ended June 30, 2010 (unaudited)		Year ended December 31, 2009			
	Number of options	Weighted average exercise price	Number of options	Weighted average exercise price	Weighted average remaining contractual term	Aggregate intrinsic value
Outstanding at beginning of period	2,503,177		1,692,324	$ 1.93	$ 8.67	—
Granted	—		1,049,715	$ 1.1		
Exercised	—		(1,200)	$ 1.1		
Forfeited and cancelled	(30,420)		(237,662)	$ 1.7		
Outstanding at end of period	2,472,757		2,503,177		$ 8.28	—
Exercisable options	1,222,466		895,982		$ 6.70	—

The weighted average exercise prices and fair values of the options granted during 2009 were as follows:

	Year ended December 31, 2009	
	Weighted average fair value	Weighted average exercise price
Exercise price greater than fair value at date of grant	$ 0.67	$ 1.1

The options outstanding as of December 31, 2009, have been separated into ranges of exercise prices, as follows:

Ranges of exercise price	Options outstanding as of December 31, 2009	Weighted average remaining contractual life	Weighted average exercise price	Options exercisable as of December 31, 2009	Weighted average exercise price of options exercisable
		(years)			
$1.1	2,290,926	8.70	$ 1.1	689,407	$ 7.64
$5.8	187,343	3.88	$ 5.8	181,667	$ 3.80
$17.4	24,908	2.04	$ 17.4	24,908	$ 2.04
	2,503,177			895,982	

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 11:- SHARE CAPITAL – (continued)

Since January 1, 2007, the Company granted stock options to its employees under its plans with exercise prices as follows:

Grants made during the years ended December 31, 2007, 2008 and 2009	Number of options granted	Weighted average exercise price	Weighted average fair value per share
March, 2007	1,032,346	$ 5.25	$ 7.98
March, 2008	142,000	$ 1.1	$ 1.1
December, 2008	856,250	$ 1.1	$ 1.1
January, 2009	50,000	$ 1.1	$ 1.1
March, 2009	157,965	$ 1.1	$ 1.1
May, 2009	239,750	$ 1.1	$ 1.1
September, 2009	622,000	$ 1.1	$ 1.1

The fair value assigned to the Common stock in order to calculate the compensation resulting from employee options, was determined primarily by management and the Company's Board. In determining fair value, management has considered a number of factors, including third party valuations.

Compensation expenses recognized by the Company related to its consultants' compensation awards were $2, $14, $0 and $0 (unaudited) for the years ended December 31, 2007, 2008 and 2009 and for the six month ended June 30, 2010 respectively.

The Company's outstanding options to consultants as of June 30, 2010 (unaudited), are as follows:

Issuance date	Options for Common stock	Exercise price per share	Options exercisable	Exercisable through
May 2000	8,620	$ 2	8,620	May 2010
November 2000	1,724	$ 2	1,724	November 2010
March 2001	6,896	$ 6	6,896	March 2011
March 2005	10,344	$ 2	10,344	March 2015
December 2005	17,240	$ 2	17,240	December 2015
March 2007	8,620	$ 1.1	5,926	March 2017
March 2008	2,500	$ 1.1	2,500	March 2018
December 2008	15,172	$ 1.1	15,172	December 2018
	71,116		68,422	

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 12:- FINANCIAL INCOME (EXPENSES), NET

	Six month ended June 30,		Year ended December 31,		
	2010	2009	2009	2008	2007
	Unaudited				
Financial expenses:					
Foreign currency transaction losses	$ 51	$ 114	$ 133	$ 55	$ 89
Fair value of warrants to Preferred H stock	156	—	—	—	—
Others	15	4	16	8	9
	222	118	149	63	98
Financial income:					
Interest from money market funds	14	140	171	744	987
Foreign currency transaction gains	67	35	65	41	51
	81	175	236	785	1,038
	$ (141)	$ 57	$ 87	$ 722	$ 940

NOTE 13:- EARNINGS (LOSS) PER SHARE

The following table sets forth the computation of the basic and diluted net loss per share:

Numerator:

	Six month ended June 30,		Year ended December 31,		
	2010	2009	2009	2008	2007
	Unaudited				
Net loss available to Common stockholders used for basic and diluted loss per share[1]	$(11,714)	$(11,184)	$(19,641)	$ (9,132)	$ —

(1) After allocating income to Preferred stockholders, income attributable to Preferred stockholders was calculated assuming the net income would be distributed as dividend in accordance with the Company's articles of incorporation. Pursuant to the articles, Preferred stockholders are entitled to receive dividends at a stipulated rate per share prior to payment of any dividends to Common stockholders. After the assumed distribution of net income as preferred dividends, remaining additional net income was attributed to Preferred stockholders in an amount equal to assumed dividends paid on the number of shares of Common stock into which such shares of Preferred stock are convertible, in accordance with the terms of the articles (see Note 11a1-2).

Denominator:

	Six month ended June 30,		Year ended December 31,		
	2010	2009	2009	2008	2007
	Unaudited				
Weighted average number of shares of Common stock:					
Stock options and warrants	3,388,530	3,387,514	3,388,119	3,307,871	2,970,351
Preferred stock as converted	—	—	—	—	261,460
Denominator for diluted net loss per share of Common stock	3,388,530	3,387,514	3,388,119	3,307,871	3,231,811

QUARK PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. dollars in thousands (except share and per share data)

NOTE 14:- MAJOR CUSTOMERS AND GEOGRAPHIC INFORMATION

a. Summary information about geographic areas:

The Company operates in one reportable segment (see Note 1 for a brief description of the Company's business). The following data is presented in accordance with ASC 280, "Segment Reporting".

The following presents total revenues and long-lived assets by geographic area as of and for the six months ended June 30, 2010 and for the years ended December 31, 2009, 2008 and 2007:

	June 30, 2010		December 31,					
	2009		2008		2007			
	Total revenues	Long-lived assets	Total revenues	Long-lived assets	Total revenues	Long-lived assets	Total revenues	Long-lived assets
	Unaudited							
Japan	$ 260	$ —	$ —	$ —	$ 30	$ —	$ 115	$ —
U.S.	990	159	2,655	127	17,246	186	27,760	171
Israel	—	355	—	391	—	497	3	339
	$ 1,250	$ 514	$ 2,655	$ 518	$ 17,276	$ 683	$ 27,878	$ 510

b. Revenue breakdown:

	Six month ended June 30,		Year ended December 31,		
	2010	2009	2009	2008	2007
	Unaudited				
Upfront and milestone payments, net	$ —	$ —	$ —	$ 12,900	$ 21,462
Development services	1,231	1,433	2,596	4,315	6,376
Other	19	19	59	61	40
	$ 1,250	$ 1,452	$ 2,655	$ 17,276	$ 27,878

c. Major customer data as a percentage of total revenues:

	Six month ended June 30,		Year ended December 31,		
	2010	2009	2009	2008	2007
	Unaudited				
Customer A	78%	99%	99%	99%	99%
Customer B	21%	—	—	—	—

NOTE 15:- SUBSEQUENT EVENTS

a. On September 1, 2010, the Company's Board granted options to purchase 232,000 shares of the Company's Common stock. 184,500, 40,000 and 7,500 options were granted to employees, consultant and a director, respectively. The exercise price is $4.55 per share.

b. Refer to Note 3b and c for major agreements that were signed subsequent to the balance sheet.

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Units

QUARK PHARMACEUTICALS, INC.

Each Unit consisting of Shares of Common Stock and Warrants

PROSPECTUS

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. ***Other Expenses of Issuance and Distribution.***

The following table sets forth all costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the sale of the common stock being registered. All amounts shown are estimates except for the SEC registration fee.

	Amount to be Paid
SEC Registration Fee	$ 1,426
Blue Sky Qualification Fees And Expenses	*
Israel Securities Authority fee	*
Tel Aviv Stock Exchange fee	*
Printing and Engraving Expenses	*
Legal Fees and Expenses	*
Accounting Fees and Expenses	*
Transfer Agent and Registrar Fees and Expenses	*
Miscellaneous Expenses	*
Total	*

* To be provided by amendment.

Item 14. ***Indemnification of Directors and Officers.***

We are incorporated under the laws of the State of California. Section 317 of the California Corporations Code authorizes a court to award, or a corporation's Board of Directors to grant, indemnity to directors and officers who are parties or are threatened to be made parties to any proceeding (with certain exceptions) by reason of the fact that the person is or was an agent of the corporation, against expenses, judgments, fines, settlements and other amounts actually and reasonably incurred in connection with the proceeding if that person acted in good faith and in a manner the person reasonably believed to be in the best interests of the corporation. Section 204 of the California Corporations Code provides that this limitation on liability has no effect on a director's liability (a) for acts or omissions that involve intentional misconduct or a knowing and culpable violation of law, (b) for acts or omissions that a director believes to be contrary to the best interests of the corporation or its shareholders or that involve the absence of good faith on the part of the director, (c) for any transaction from which a director derived an improper personal benefit, (d) for acts or omissions that show a reckless disregard for the director's duty to the corporation or its shareholders in circumstances in which the director was aware, or should have been aware, in the ordinary course of performing a director's duties, of a risk of a serious injury to the corporation or its shareholders, (e) for acts or omissions that constitute an unexcused pattern of inattention that amounts to an abdication of the director's duty to the corporation or its shareholders, (f) under Section 310 of the law (concerning contracts or transactions between the corporation and a director), or (g) under Section 316 of the law (directors' liability for improper dividends, loans and guarantees). Section 317 does not extend to acts or omissions of a director in his capacity as an officer. Further, Section 317 has no effect on claims arising under federal or state securities laws and does not affect the availability of injunctions and other equitable remedies available to our shareholders for any violation of a director's fiduciary duty to us or our shareholders. Although the validity and scope of the legislation underlying Section 317 have not yet been interpreted to any significant extent by the California courts, Section 317 may relieve directors of monetary liability to us for grossly negligent conduct, including conduct in situations involving attempted takeovers of Quark.

In accordance with Section 317, our articles of incorporation eliminate the liability of each of our directors for monetary damages to the fullest extent permissible under California law. Our articles of incorporation further authorize us to provide indemnification to our agents (including our officers and directors), subject to the limitations set forth above. The articles of incorporation and our amended and

restated bylaws further provide for indemnification of our officers and directors to the maximum extent permitted by California law, and also permit the indemnification of other corporate agents to the maximum extent permitted by California law at the discretion of our Board of Directors. Additionally, we maintain insurance policies which insure our officers and directors against certain liabilities.

The foregoing summaries are necessarily subject to the complete text of the California Corporations Code, our articles of incorporation, our amended and restated bylaws and the agreements referred to above and are qualified in their entirety by reference thereto.

As permitted by the California Corporations Code, we have entered into indemnity agreements with each of our directors and executive officers, that require us to indemnify such persons against any and all expenses (including attorneys' fees), witness fees, damages, judgments, fines, settlements and other amounts incurred (including expenses of a derivative action) in connection with any action, suit or proceeding, whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was a director, an officer or an employee of Quark or any of its affiliated enterprises, provided that such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to our best interests and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder.

At present, there is no pending litigation or proceeding involving any of our directors or executive officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

We have an insurance policy covering our officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act or otherwise.

ITEM 15. ***Recent Sales of Unregistered Securities.***

The following list sets forth information regarding all unregistered securities sold by us since our inception through August __, 2010 and gives effect to a 2.9-for-1 reverse split of our outstanding shares of common stock which became effective June 4, 2007. The shares of preferred stock described below were not recombined under the reverse stock split. However, the conversion ratios of the preferred shares will adjust automatically under provisions contained in our amended and restated articles of incorporation and will give effect to the reverse split upon the conversion of the preferred shares into common shares at the completion of this offering.

(1) We have granted options under our 1994 Stock Option Plan, to purchase 389,644 post-split shares of common stock to our employees, directors, and consultants, having exercise prices ranging from $0.00029 to $1.16 per share. Of these, options to purchase 336,199 shares of common stock have been exercised for aggregate consideration of $162,072.50, at exercise prices ranging from $0.00029 to $1.16 per share.

(2) We have granted options under our 1997 Stock Plan, to purchase 1,237,760 post-split shares of common stock to our employees, directors, and consultants, having exercise prices ranging from $1.16 to $17.40 per share. Of these, options to purchase 47,595 shares of common stock have been exercised for aggregate consideration of $92,300.74, at exercise prices ranging from $1.16 to $17.40 per share.

(3) We have granted options under our 2003 Israeli Stock Plan, to purchase 168,644 post-split shares of common stock to our Israeli employees, directors, and consultants, with an exercise price of $5.80 per share. Of these, options to purchase 1,724 shares of common stock have been exercised for aggregate consideration of $10,000.00.

(4) We have granted options under our 2007 Equity Incentive Plan, to purchase 3,232,961 post-split shares of common stock to our employees and consultants, at exercise prices ranging from $1.10 to $17.40. Of these, options to purchase 57,181 shares of common stock have been exercised for aggregate consideration of $89,586.92, at exercise prices ranging from $1.10 to $7.975 per share.

(5) On January 14, 1994, we issued and sold 1,724,137 post-split shares of our common stock to one of our founders and executive officers for $500.00.

(6) On January 14, 1994, we issued and sold 206,896 post-split shares of our common stock to one of our founders and executive officers for $60.00.

(7) On January 14, 1994, we issued and sold 112,068 post-split shares of our common stock to one of our founders and executive officers for $32.50.

(8) On January 14, 1994, we issued and sold 232,758 post-split shares of our common stock to one of our founders and executive officers for $67.50.

(9) On January 14, 1994, we issued and sold 344 post-split shares of our common stock to one of our executive officers for $0.10.

(10) On February 18, 1994, we issued and sold an aggregate of 645,000 shares of our Series A preferred stock (222,409 shares of common stock on an as-converted, post-split basis) to a total of 11 accredited investors for aggregate consideration of $806,250.00.

(11) On March 14, 1994, we issued and sold an aggregate of 543,000 shares of our Series A preferred stock (166,547 shares of common stock on an as-converted, post-split basis) to a total of 14 accredited investors for aggregate consideration of $678,750.00.

(12) On March 31, 1994, we issued and sold an aggregate of 132,000 shares of our Series A preferred stock (45,514 shares of common stock on an as-converted, post-split basis) to a total of 6 accredited investors for aggregate consideration of $165,000.00.

(13) On May 3, 1994, we issued and sold 40,000 shares of our Series A preferred stock (13,793 shares of common stock on an as-converted, post-split basis) to 1 accredited investor for $50,000.00.

(14) On June 1, 1995, we issued and sold 4,000,000 shares of our Series B preferred stock (1,379,310 shares of common stock on an as-converted, post-split basis) to 1 accredited investor for $5,000,000.00.

(15) On August 30, 1995, we issued and sold an aggregate of 266,824 shares of our Series B preferred stock (75,829 shares of common stock on an as-converted, post-split basis) to a total of 8 accredited investors for aggregate consideration of $333,530.00.

(16) On October 3, 1996, we issued and sold 1,375,000 shares of our Series C preferred stock (474,137 shares of common stock on an as-converted, post-split basis) to 1 accredited investor for $5,500,000.00.

(17) On December 31, 1996, we issued and sold an aggregate of 68,692 shares of our Series C preferred stock (23,683 shares of common stock on an as-converted, post-split basis) to a total of 7 accredited investors for aggregate consideration of $274,768.00.

(18) On May 30, 1997, we issued and sold 125,000 shares of our Series C preferred stock (43,103 shares of common stock on an as-converted, post-split basis) to 1 accredited investor for $500,000.00.

(19) On August 28, 1997, we issued and sold 5,000,000 shares of our Series D preferred stock (1,724,137 shares of common stock on an as-converted, post-split basis) and issued a warrant to purchase up to 4,125,000 shares of our Series D preferred stock (1,422,413 shares of common stock on an as-converted, post-split basis) to 1 accredited investor for $20,000,000.00.

(20) On September 9, 1997, we issued and sold 439,413 shares of our Series D preferred stock (151,521 shares of common stock on an as-converted, post-split basis) and issued a warrant to purchase up to 410,940 shares of our Series D preferred stock (141,703 shares of common stock on an as-converted, post-split basis) to 1 accredited investor for $1,757,652.00.

(21) On December 17,1999, we issued and sold 2,034,588 shares of our Series E preferred stock (701,582 shares of common stock on an as-converted, post-split basis) to 1 accredited investor for $20,000,000.00.

(22) On May 26, 2000, we issued and sold an aggregate of 16,232 shares of our Series E preferred stock (5,594 shares of common stock on an as-converted, post-split basis) to a total of 6 accredited investors for aggregate consideration of $159,569.56.

(23) On March 27, 2001 we issued and sold an aggregate of 458,333 shares of our Series F preferred stock (158,044 shares of common stock on an as-converted, post-split basis) to a total of 2 accredited investors for aggregate consideration of $5,499,996.00.

(24) On April 12, 2001 we issued and sold an aggregate of 335,434 shares of our Series F preferred stock (115,666 shares of common stock on an as-converted, post-split basis) to a total of 2 accredited investors for aggregate consideration of $4,025,208.00.

(25) On June 25, 2001 we issued and sold 250,000 shares of our Series F preferred stock (86,206 shares of common stock on an as-converted, post-split basis) to 1 accredited investor for $3,000,000.00.

(26) On September 30, 2001 we issued and sold an aggregate of 99,997 shares of our Series F preferred stock (34,977 shares of common stock on an as-converted, post-split basis) to a total of 7 accredited investors for aggregate consideration of $1,199,964.00.

(27) On December 27, 2005, we issued and sold an aggregate of 7,342,646 shares of our Series G preferred stock (2,531,945 shares of common stock on an as-converted, post-split basis) and issued warrants to purchase up to 1,468,528 shares of our common stock (506,388 shares of common stock on a post-split basis) to a total of 4 accredited investors for aggregate consideration of $10,499,983.78.

(28) On February 24, 2006, we issued and sold an aggregate of 1,923,086 shares of our Series G preferred stock (663,132 shares of common stock on an as-converted, post-split basis) and issued warrants to purchase up to 384,617 shares of our common stock (132,625 shares of common stock on a post-split basis) to a total of 3 accredited investors for aggregate consideration of $2,750,012.98.

(29) On May 1, 2006, we issued and sold an aggregate of 1,223,779 shares of our Series G preferred stock (421,991 shares of common stock on an as-converted, post-split basis) and issued warrants to purchase up to 244,755 shares of our common stock (84,396 shares of common stock on a post-split basis) to a total of 3 accredited investors for aggregate consideration of $1,750,003.97.

(30) On March 19, 2008, we issued and sold an aggregate of 2,780,000 shares of our Series H preferred stock (2,780,000 shares of common stock on an as-converted, post-split basis) to a total of 3 accredited investors for aggregate consideration of $13,900,000.

(31) On April 7, 2008, we issued and sold an aggregate of 2,620,000 shares of our Series H preferred stock (2,620,000 shares of common stock on an as-converted, post-split basis) to a total of 11 accredited investors for aggregate consideration of $13,100,000.

(32) On May 17, 2010, we issued and sold an aggregate of 7,400,000 shares of our Series H preferred stock (7,400,000 shares of common stock on an as-converted, post-split basis) and issued warrants to purchase up to 300,000 shares of our Series H preferred stock to a total of 9 accredited investors for aggregate consideration of $37,000,000.

The offers, sales and issuances of the securities described in Item 15(1) through 15(4) were exempt from registration under the Securities Act under Rule 701 in that the transactions were under compensatory benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of such securities were our employees, directors or consultants and received the securities under our 2007 Equity Incentive Plan, 1997 Stock Plan, 2003 Israeli Stock Option Plan or 1994 Stock Option Plan. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment or business relationships, to information about us.

The offers, sales, and issuances of the securities described in Items 15(5) through 15(32) were exempt from registration under the Securities Act under Section 4(2) of the Securities Act and Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited or sophisticated person and had adequate access, through employment, business or other relationships, to information about us.

Item 16. ***Exhibits and Financial Statement Schedules.***

(a) *Exhibits*.

Exhibit Number	Description of Document
3.1	Amended and Restated Articles of Incorporation of the Registrant, effective March 11, 2008.
3.2	Certificate of Amendment of Amended and Restated Articles of Incorporation of the Registrant, effective May 17, 2010.
3.3	Amended and Restated Bylaws of the Registrant, as currently in effect.
4.1	Reference is made to exhibits 3.1 and 3.2.
4.2	Specimen Common Stock Certificate.
4.3	Fourth Amended and Restated Investor Rights Agreement, dated as of March 19, 2008, by and between the Registrant and the persons and entities named therein.
4.4	Form of Series H Preferred Stock Purchase Warrant of Registrant.
4.5†	Form of Warrant to Purchase Common Stock of Registrant.
5.1†	Opinion of Cooley LLP.
10.1#	Form of Indemnitee Agreement between the Registrant and its officers and directors.
10.2#	Employment Agreement, dated as of January 1, 2008, by and between the Registrant and Daniel Zurr.
10.3	Reserved.
10.4†#	Employment Agreement, dated as of September 14, 1997, by and between QBI Enterprises, Ltd. and Smadar Samira Shakked.
10.5†#	Employment Agreement, dated as of November 13, 2006, by and between the Registrant and Smadar Samira Shakked.
10.6†#	Employment Agreement, dated as of May 10, 2007, by and between QBI Enterprises, Ltd. and Rami Skaliter.
10.7†#	Employment Agreement, dated as of May 10, 2007, by and between QBI Enterprises, Ltd. and Juliana Friedmann.
10.8#	Employment Agreement, dated as of March 9, 2003, by and between Registrant and Shai Erlich.
10.9†#	Employment Agreement, dated as of June 28, 2007, by and between QBI Enterprises, Ltd. and Elena Feinstein, M.D., Ph.D.
10.10†#	Employment Agreement, dated as of August 1, 2010, by and between QBI Enterprises, Ltd. and Sagit Reich.
10.11#	1997 Stock Plan.
10.12#	1997 Stock Plan for Israeli Employees.
10.13#	Form of Option Agreement and Form of Option Grant Notice under the 1997 Stock Plan.
10.14#	Form of Option Agreement and Form of Option Grant Notice under the 1997 Stock Plan for Israeli Employees.
10.15#	2003 Stock Option Plan for Israeli Employees.
10.16#	Form of Option Agreement and Form of Option Grant Notice under the 2003 Israeli Stock Option Plan.
10.17†#	2007 Equity Incentive Plan.
10.18#	Form of Stock Option Agreement and Form of Option Grant Notice under the 2007 Equity Incentive Plan.

Exhibit Number	Description of Document
10.19	Lease Agreement, dated September 8, 2006, by and between the Registrant and John Arrillaga, Trustee and Richard T. Peery, Trustee.
10.20	Lease Contract, dated December 15, 1995, by and between the Registrant and Kiryat Weizmann Science Park Ltd.
10.21†	Exclusive License Agreement, dated September 3, 1999, by and between the Registrant and The Board of Trustees of The University of Illinois.
10.22†	Collaboration Agreement, dated as of December 6, 2004, by and among the Registrant, QBI Enterprises, Ltd., and Atugen AG (currently Silence Therapeutics).
10.23†	Option and License Agreement, dated as of April 19, 2005, by and among the Registrant, QBI Enterprises, Ltd., and Atugen AG (currently Silence Therapeutics).
10.24†	Amendment to Collaboration Agreement, dated as of May 25, 2006, by and among the Registrant, QBI Enterprises, Ltd., and Atugen AG (currently Silence Therapeutics).
10.25†	Deed of Amendment and Option, dated as of September 25, 2006, by and among the Registrant, Atugen AG, QBI Enterprises, Ltd., and Pfizer Inc.
10.26†	License Agreement, dated as of September 25, 2006, by and between Registrant and Pfizer Inc.
10.27†	License Agreement, dated as of September 26, 2006, by and between the Registrant and Alnylam Pharmaceuticals, Inc.
10.28†	License Agreement, dated as of September 26, 2006, by and between the Registrant and Alnylam Pharmaceuticals, Inc.
10.29†	License Agreement, dated as of September 26, 2006, by and between the Registrant and Alnylam Pharmaceuticals, Inc.
10.30†	License Agreement, dated as of September 26, 2006, by and between the Registrant and Alnylam Pharmaceuticals, Inc.
10.31†	First Amendment to the License Agreement between the Board of Trustees of The University of Illinois and the Registrant, dated March 23, 2007.
10.32†	Amendment Number Two to the License Agreement between the Board of Trustees of The University of Illinois and the Registrant, dated December 22, 2009
10.33†	Patent License Agreement dated January 29, 2010 with Dharmacon, Inc for the exclusive license of Dharmacon pending patent application covering certain sequences of the p53 gene.
10.34†	License And Collaboration Agreement between Nitto Denko Corporation and the Registrant, dated June 30, 2010
10.35†	Option Agreement between Novartis International Pharmaceutical Limited and the Registrant, dated August 17, 2010
10.36†#	2010 Employee Stock Purchase Plan.
21.1	List of Subsidiaries of the Registrant.
23.1	Consent of Independent Registered Public Accounting Firm.
23.2†	Consent of Cooley LLP (included in Exhibit 5.1).
23.3†	Consent of Independent Valuation Consultant
24.1	Power of Attorney (included in signature page).

† To be filed by amendment.

# Indicates management contract or compensatory plan.

(b) *Financial Statement Schedules*.

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or the notes thereto.

Item 17. ***Undertakings.***

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Fremont, State of California, on the 24th day of September, 2010.

QUARK PHARMACEUTICALS, INC.
By: /s/ Daniel Zurr, Ph.D.
Daniel Zurr, Ph.D.
President and Chief Executive Officer

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Daniel Zurr and Sagit Reich, and each of them, as his true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him and in his name, place or stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Daniel Zurr, Ph.D. DANIEL ZURR, PH.D.	President, Chief Executive Officer and Director *(Principal Executive Officer)*	September 24, 2010
/s/ Sagit Reich SAGIT REICH	Chief Financial Officer *(Principal Financial and Accounting Officer)*	September 24, 2010
/s/ Philip B. Simon PHILIP B. SIMON	Chairman of the Board	September 24, 2010
/s/ Philip M. Hahn PHILIP M. HAHN	Vice-Chairman of the Board	September 24, 2010
/s/ Yoshitaka Kitao YOSHITAKA KITAO	Director	September 24, 2010
_____ TOSHIHIRO TOYOSHIMA	Director	September __, 2010
/s/ Robert Takeuchi ROBERT TAKEUCHI	Director	September 24, 2010

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EXHIBIT INDEX

Exhibit Number	Description of Document
3.1	Amended and Restated Articles of Incorporation of the Registrant, effective March 11, 2008.
3.2	Certificate of Amendment of Amended and Restated Articles of Incorporation of the Registrant, effective May 17, 2010.
3.3	Amended and Restated Bylaws of the Registrant, as currently in effect.
4.1	Reference is made to exhibits 3.1 and 3.2.
4.2	Specimen Common Stock Certificate.
4.3	Fourth Amended and Restated Investor Rights Agreement, dated as of March 19, 2008, by and between the Registrant and the persons and entities named therein.
4.4	Form of Series H Preferred Stock Purchase Warrant of Registrant.
4.5†	Form of Warrant to Purchase Common Stock of Registrant.
5.1†	Opinion of Cooley LLP.
10.1#	Form of Indemnitee Agreement between the Registrant and its officers and directors.
10.2#	Employment Agreement, dated as of January 1, 2008, by and between the Registrant and Daniel Zurr.
10.3	Reserved.
10.4†#	Employment Agreement, dated as of September 14, 1997, by and between QBI Enterprises, Ltd. and Smadar Samira Shakked.
10.5†#	Employment Agreement, dated as of November 13, 2006, by and between the Registrant and Smadar Samira Shakked.
10.6†#	Employment Agreement, dated as of May 10, 2007, by and between QBI Enterprises, Ltd. and Rami Skaliter.
10.7†#	Employment Agreement, dated as of May 10, 2007, by and between QBI Enterprises, Ltd. and Juliana Friedmann.
10.8#	Employment Agreement, dated as of March 9, 2003, by and between Registrant and Shai Erlich.
10.9†#	Employment Agreement, dated as of June 28, 2007, by and between QBI Enterprises, Ltd. and Elena Feinstein, M.D., Ph.D.
10.10†#	Employment Agreement, dated as of August 1, 2010, by and between QBI Enterprises, Ltd. and Sagit Reich.
10.11#	1997 Stock Plan.
10.12#	1997 Stock Option Plan for Israeli Employees.
10.13#	Form of Option Agreement and Form of Option Grant Notice under the 1997 Stock Plan.
10.14#	Form of Option Agreement and Form of Option Grant Notice under the 1997 Stock Plan for Israeli Employees.
10.15#	2003 Stock Plan for Israeli Employees.
10.16#	Form of Option Agreement and Form of Option Grant Notice under the 2003 Israeli Stock Option Plan.
10.17†#	2007 Equity Incentive Plan.
10.18#	Form of Stock Option Agreement and Form of Option Grant Notice under the 2007 Equity Incentive Plan.
10.19	Lease Agreement, dated September 8, 2006, by and between the Registrant and John Arrillaga, Trustee and Richard T. Peery, Trustee.
10.20	Lease Contract, dated December 15, 1995, by and between the Registrant and Kiryat Weizmann Science Park Ltd.

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Exhibit Number	Description of Document
10.21†	Exclusive License Agreement, dated September 3, 1999, by and between the Registrant and The Board of Trustees of The University of Illinois.
10.22†	Collaboration Agreement, dated as of December 6, 2004, by and among the Registrant, QBI Enterprises, Ltd., and Atugen AG (currently Silence Therapeutics).
10.23†	Option and License Agreement, dated as of April 19, 2005, by and among the Registrant, QBI Enterprises, Ltd., and Atugen AG (currently Silence Therapeutics).
10.24†	Amendment to Collaboration Agreement, dated as of May 25, 2006, by and among the Registrant, QBI Enterprises, Ltd., and Atugen AG (currently Silence Therapeutics).
10.25†	Deed of Amendment and Option, dated as of September 25, 2006, by and among the Registrant, Atugen AG, QBI Enterprises, Ltd., and Pfizer Inc.
10.26†	License Agreement, dated as of September 25, 2006, by and between Registrant and Pfizer Inc.
10.27†	License Agreement, dated as of September 26, 2006, by and between the Registrant and Alnylam Pharmaceuticals, Inc.
10.28†	License Agreement, dated as of September 26, 2006, by and between the Registrant and Alnylam Pharmaceuticals, Inc.
10.29†	License Agreement, dated as of September 26, 2006, by and between the Registrant and Alnylam Pharmaceuticals, Inc.
10.30†	License Agreement, dated as of September 26, 2006, by and between the Registrant and Alnylam Pharmaceuticals, Inc.
10.31†	First Amendment to the License Agreement between the Board of Trustees of The University of Illinois and the Registrant, dated March 23, 2007.
10.32†	Amendment Number Two to the License Agreement between the Board of Trustees of The University of Illinois and the Registrant, dated December 22, 2009
10.33†	Patent License Agreement dated January 29, 2010 with Dharmacon, Inc for the exclusive license of Dharmacon pending patent application covering certain sequences of the p53 gene.
10.34†	License And Collaboration Agreement between Nitto Denko Corporation and the Registrant, dated June 30, 2010
10.35†	Option Agreement between Novartis International Pharmaceutical Limited and the Registrant, dated August 17, 2010
10.36†#	2010 Employee Stock Purchase Plan.
21.1	List of Subsidiaries of the Registrant.
23.1	Consent of Independent Registered Public Accounting Firm.
23.2†	Consent of Cooley LLP (included in Exhibit 5.1).
23.3†	Consent of Independent Valuation Consultant
24.1	Power of Attorney (included in signature page).

† To be filed by amendment.

# Indicates management contract or compensatory plan.