Regulus Therapeutics Inc.
Form 10-Q
August 07, 2014
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2014

or

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

FOR THE TRANSITION PERIOD FROM _____ TO _____

Commission file number: 001-35670

Regulus Therapeutics Inc.

(Exact name of registrant as specified in its charter)

Delaware	**26-4738379**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
3545 John Hopkins Ct., Suite 210	
San Diego, CA	**92121**
(Address of Principal Executive Offices)	**(Zip Code)**

858-202-6300

(Registrant s Telephone Number, Including Area Code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark whether 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 , smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer ¨	Accelerated filer x
Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨

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

As of July 25, 2014, the registrant had 43,392,345 shares of Common Stock ($0.001 par value) outstanding.

Table of Contents

REGULUS THERAPEUTICS INC.

TABLE OF CONTENTS

Table of Contents

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Regulus Therapeutics Inc.

CONDENSED BALANCE SHEETS

(in thousands, except share and per share data)

	June 30, 2014 (Unaudited)	December 31, 2013
Assets		
Current assets:		
Cash and cash equivalents	$ 10,024	$ 17,807
Short-term investments	93,477	96,198
Prepaid and other current assets	4,383	3,177
Total current assets	107,884	117,182
Property and equipment, net	3,948	3,768
Intangibles, net	1,112	1,128
Other assets	977	987
Total assets	$ 113,921	$ 123,065
Liabilities and stockholders equity		
Current liabilities:		
Accounts payable	$ 3,018	$ 1,172
Accrued liabilities	4,432	3,013
Accrued compensation	1,187	1,297
Current portion of deferred revenue	2,630	4,888
Total current liabilities	11,267	10,370
Convertible notes payable, at fair value	12,450	11,279
Deferred revenue, less current portion	6,861	6,500
Other long-term liabilities	1,260	1,459
Total liabilities	31,838	29,608
Stockholders equity:		
Common stock, $0.001 par value; 200,000,000 shares authorized, 43,383,863 and 41,787,326 shares issued and outstanding at June 30, 2014 (unaudited) and December 31, 2013, respectively	43	42
Additional paid-in capital	185,883	172,518

Accumulated other comprehensive loss	(42)	(16)
Accumulated deficit	(103,801)	(79,087)
Total stockholders equity	82,083	93,457
Total liabilities and stockholders equity	$ 113,921	$ 123,065

See accompanying notes to these condensed financial statements.

Table of Contents

Regulus Therapeutics Inc.

CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(In thousands, except share and per share data)

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
	(Unaudited)			
Revenues:				
Revenue under strategic alliances and collaborations	$ 736	$ 4,759	$ 2,367	$ 7,997
Total revenues	736	4,759	2,367	7,997
Operating expenses:				
Research and development	10,795	7,722	20,399	14,604
General and administrative	2,954	1,723	5,686	3,628
Total operating expenses	13,749	9,445	26,085	18,232
Loss from operations	(13,013)	(4,686)	(23,718)	(10,235)
Other income (expense):				
Interest and other income	97	63	197	135
Interest expense	(10)	(18)	(21)	(18)
Gain (loss) from valuation of convertible notes payable	953	(2,697)	(1,171)	(4,458)
Loss before income taxes	(11,973)	(7,338)	(24,713)	(14,576)
Income tax expense		10	1	1
Net loss	$ (11,973)	$ (7,348)	$ (24,714)	$ (14,577)
Other comprehensive loss:				
Unrealized gain (loss) on short-term investments, net	17	(44)	(26)	(29)
Comprehensive loss	$ (11,956)	$ (7,392)	$ (24,740)	$ (14,606)
Net loss per share:				
Basic	$ (0.28)	$ (0.20)	$ (0.57)	$ (0.41)
Diluted	$ (0.29)	$ (0.20)	$ (0.57)	$ (0.41)
Weighted average shares used to compute net loss per share:				

Basic	43,362,483	35,994,642	43,028,198	35,933,961
Diluted	44,799,536	35,994,642	43,028,198	35,933,961

See accompanying notes to these condensed financial statements.

Table of Contents

Regulus Therapeutics Inc.

Condensed Statements of Cash Flows

(In thousands)

	Six Months Ended June 30,	
	2014	2013
	(Unaudited)	
Operating activities		
Net loss	$ (24,714)	$ (14,577)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization expense	700	629
Loss from valuation of convertible notes payable	1,171	4,458
Stock-based compensation	3,083	1,546
Amortization of premium on investments, net	876	647
Loss on disposal of long-term assets	18	1
Deferred income taxes		(10)
Change in operating assets and liabilities:		
Prepaid and other assets	(1,197)	(889)
Accounts payable	1,729	717
Accrued liabilities	1,412	160
Accrued compensation	(109)	(327)
Deferred revenue	(1,896)	(7,997)
Deferred rent and other liabilities	(124)	1,055
Net cash used in operating activities	(19,051)	(14,587)
Investing activities		
Purchases of short-term investments	(48,301)	(19,984)
Maturities and sales of short-term investments	50,120	13,320
Purchases of property and equipment	(731)	(268)
Acquisition of intangibles	(34)	(96)
Net cash provided by (used in) investing activities	1,054	(7,028)
Financing activities		
Proceeds from issuance of common stock, net	9,728	289
Proceeds from exercise of common stock options	556	
Principal payments on other long-term obligations	(70)	(56)
Net cash provided by financing activities	10,214	233
Net decrease in cash and cash equivalents	(7,783)	(21,382)

Cash and cash equivalents at beginning of period	17,807	40,552
Cash and cash equivalents at end of period	$ 10,024	$ 19,170
Supplemental disclosure of cash flow information		
Interest paid	$ 21	$
Income taxes paid	$ 1	$ 1
Supplemental disclosure of non-cash investing and financing activities		
Amounts accrued for property and equipment, net	$ 117	$ 105
Allowance for tenant improvements	$	$ 920
Amounts accrued for patent expenditures, net	$	$ 19

See accompanying notes to these condensed financial statements.

Table of Contents

Regulus Therapeutics Inc.

NOTES TO CONDENSED FINANCIAL STATEMENTS

(Unaudited)

1. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed financial statements have been prepared in accordance with U.S. generally accepted accounting principles (GAAP) for interim financial information and the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In management s opinion, the accompanying financial statements reflect all adjustments, consisting of normal recurring adjustments, considered necessary for a fair presentation of the results for the interim periods presented.

Interim financial results are not necessarily indicative of results anticipated for the full year. These unaudited condensed financial statements should be read in conjunction with the Company s audited financial statements and footnotes included in our Annual Report on Form 10-K for the year ended December 31, 2013, from which the balance sheet information herein was derived.

Use of Estimates

Our condensed financial statements are prepared in accordance with GAAP, which requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities in our financial statements and accompanying notes. Although these estimates are based on our knowledge of current events and actions we may undertake in the future, actual results may ultimately differ from these estimates and assumptions.

Revenue Recognition

Our revenues generally consist of upfront payments for licenses or options to obtain licenses in the future, research and development funding and milestone payments under strategic alliance agreements, as well as funding received under government grants. We recognize revenues when all four of the following criteria are met: (1) persuasive evidence that an arrangement exists; (2) delivery of the products and/or services has occurred; (3) the selling price is fixed or determinable; and (4) collectability is reasonably assured.

Multiple element arrangements, such as our strategic alliance agreements with Sanofi, AstraZeneca AB (AstraZeneca), GlaxoSmithKline plc (GSK) and our collaboration agreement with Biogen Idec MA Inc. (Biogen Idec), are analyzed to determine whether the deliverables within the agreement can be separated or whether they must be accounted for as a single unit of accounting. Deliverables under the agreement will be accounted for as separate units of accounting provided that (i) a delivered item has value to the customer on a stand-alone basis; and (ii) if the agreement includes a general right of return relative to the delivered item, delivery or performance of the undelivered item is considered probable and substantially in the control of the vendor. The allocation of consideration amongst the units of accounting under the agreement is derived using a best estimate of selling price if vendor specific objective evidence and third-party evidence of fair value is not available. If the delivered element does not have stand-alone value, the arrangement is then accounted for as a single unit of accounting, and we recognize the consideration

received under the arrangement as revenue on a straight-line basis over our estimated period of performance, which for us is often the expected term of the research and development plan.

Milestones

We apply the milestone method of accounting to recognize revenue from milestone payments when earned, as evidenced by written acknowledgement from the collaborator or other persuasive evidence that the milestone has been achieved and the payment is non-refundable, provided that the milestone event is substantive. A milestone event is defined as an event (i) that can only be achieved based in whole or in part on either our performance or on the occurrence of a specific outcome resulting from our performance; (ii) for which there is substantive uncertainty at the inception of the arrangement that the event will be achieved; and (iii) that would result in additional payments being due to us. Events for which the occurrence is either contingent solely upon the passage of time or the result of a counterparty s performance are not considered to be milestone events. A milestone event is substantive if all of the following conditions are met: (i) the consideration is commensurate with either our performance to achieve the milestone, or the enhancement of the value to the delivered item(s) as a result of a specific outcome resulting from our performance to achieve the milestone; (ii) the consideration relates solely to past performance; and (iii) the consideration is reasonable relative to all the deliverables and payment terms (including other potential milestone consideration) within the arrangement.

We assess whether a milestone is substantive at the inception of each arrangement. If a milestone is deemed non-substantive, we will account for that milestone payment in accordance with the multiple element arrangements guidance and recognize revenue consistent with the related units of accounting for the arrangement over the related performance period.

Table of Contents

Deferred Revenue

Amounts received prior to satisfying the above revenue recognition criteria are recorded as deferred revenue in the accompanying balance sheets. Amounts not expected to be recognized within the next 12 months are classified as non-current deferred revenue.

Stock-Based Compensation

We account for stock-based compensation expense related to stock options granted to employees and members of our board of directors by estimating the fair value of each stock option on the date of grant using the Black-Scholes model. We recognize stock-based compensation expense using the accelerated multiple-option approach. Under the accelerated multiple-option approach (also known as the graded-vesting method), we recognize compensation expense over the requisite service period for each separately vesting tranche of the award as though the award was in substance multiple awards, resulting in accelerated expense recognition over the vesting period. For performance-based awards granted to employees (i) the fair value of the award is determined on the grant date, (ii) we assess the probability of the individual milestones under the award being achieved and (iii) the fair value of the shares subject to the milestone is expensed over the implicit service period commencing once management believes the performance criteria is probable of being met.

We account for stock options granted to non-employees, which primarily consist of members of our scientific advisory board, using the fair value approach. Stock options granted to non-employees are subject to periodic revaluation over their vesting terms.

Fair Value Option

Applicable accounting policies permit entities to choose, at specified election dates, to measure specified items at fair value if the decision about the election is: 1) applied instrument by instrument, 2) irrevocable, and 3) applied to an entire instrument.

In July 2012, we amended and restated the $5.0 million convertible promissory note originally issued in February 2010 to GSK (the 2010 GSK Note), which resulted in a debt extinguishment for accounting purposes. Concurrently with the debt extinguishment, we elected the fair value option for the 2010 GSK Note. The difference between the carrying value of the 2010 GSK Note and the fair value of the amended and restated 2010 GSK Note was recorded as a loss on extinguishment of debt to non-operating earnings. Thereafter, any change to the fair value of the amended note is recorded as gain (loss) from valuation of convertible notes payable to non-operating earnings.

Clinical Trial and Pre-Clinical Study Accruals

We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on the facts and circumstances known to us at that time. Our accrued expenses for pre-clinical studies and clinical trials are based on estimates of costs incurred and fees that may be associated with services provided by clinical trial investigational sites, clinical research organizations (CROs) and other clinical trial-related vendors. Payments under certain contracts with such parties depend on factors such as successful enrollment of patients, site initiation and the completion of clinical trial milestones. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If possible, we obtain information regarding unbilled services directly from these service providers. However, we may be required to estimate these services based on other information available to us. If we underestimate or overestimate the activity or fees associated with a study or service at a given point in time, adjustments to research and development expenses may be necessary in future

periods. Historically, our estimated accrued liabilities have approximated actual expense incurred. Subsequent changes in estimates may result in a material change in our accruals.

Recent Accounting Pronouncements

In July 2013, the FASB issued Accounting Standards Update No. 2013-11, *Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists* (ASU 2013-11). This update provides explicit guidance on the financial statement presentation of an unrecognized tax benefit when a net operating loss carryforward, a similar tax loss, or a tax credit carryforward exists. This guidance is effective prospectively for fiscal years, and interim periods within those years, beginning after December 15, 2013, with an option for early adoption. We adopted this guidance in 2014 and it did not have a material impact on our financial condition, results of operations or related financial statement disclosures.

On May 28, 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (ASU 2014-19). Adoption of ASU No. 2014-09 requires that an entity recognize revenue to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This update is effective for annual reporting periods beginning after December 15, 2016 and interim periods therein and requires expanded disclosures. We are currently evaluating the impact of adoption on the Company s financial position, results of operations and cash flows.

Table of Contents

2. Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss by the weighted average number of common shares outstanding for the period, without consideration for common stock equivalents. Diluted net loss per share is calculated by dividing the net loss by the weighted-average number of common share equivalents outstanding for the period determined using the treasury-stock method. Dilutive common stock equivalents are comprised of options outstanding under our stock option plan and convertible notes payable.

Applicable accounting standards provides that a contract convertible into common stock that is reported as an asset or liability for accounting purposes may require an adjustment to the numerator of the diluted earnings per share calculation for any changes in income or loss that would result if the contract had been reported as an equity instrument during the period. Securities are assumed to be converted at the beginning of the period, and the resulting common shares are included in the denominator of the diluted earnings per share calculation for the entire period presented. Adding back the gain from the change in valuation of the convertible notes payable for the three months ended June 30, 2014 to the numerator and adding the number of shares to be issued upon conversion of the convertible notes payable into the denominator of the diluted earnings per share calculation resulted in an increase to the loss per share for the period. The convertible notes payable was anti-dilutive for the six months ended June 30, 2014.

The following table summarizes the adjustment to net loss for the diluted net loss per share calculation for the three months ended June 30, 2014 (in thousands):

Net loss	$ (11,973)
Less: gain from change in valuation of notes payable	953
Net loss used to compute diluted net loss per share	$ (12,926)

The following table summarizes the adjustment to weighted average shares outstanding for the diluted net loss per share calculation for the three months ended June 30, 2014:

Weighted average shares outstanding used for basic net loss per share	43,362,483
Plus: weighted average shares of convertible notes payable	1,437,053
Weighted average shares outstanding used for diluted net loss per share	44,799,536

Potentially dilutive securities not included in the calculation of diluted net loss per share because to do so would be anti-dilutive are as follows (in common equivalent shares):

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013

Common stock options	2,052,638	2,868,372	2,607,245	2,539,792
Convertible notes payable		1,389,417	1,437,053	1,389,417
Total	2,052,638	4,257,789	4,044,298	3,929,209

As of June 30, 2014, we had a convertible note payable outstanding with a principal balance of $5.4 million that was convertible into common shares at $4.00 per share, at the option of the note holder.

3. Investments

We invest our excess cash in commercial paper and debt instruments of financial institutions, corporations, U.S. government-sponsored agencies, and the U.S. Treasury. As of June 30, 2014, our short-term investments had a weighted average maturity of less than two years.

Table of Contents

The following tables summarize our short-term investments (dollars in thousands):

	Maturity (in years)	Amortized cost	Unrealized Gains	Unrealized Losses	Estimated fair value
As of June 30, 2014					
Corporate debt securities	2 or less	$ 76,109	$ 19	$ (29)	$ 76,099
Certificates of deposit	3 or less	13,630			13,630
Commercial paper	1 or less	3,747	1		3,748
Total		$ 93,486	$ 20	$ (29)	$ 93,477

	Maturity (in years)	Amortized cost	Unrealized Gains	Unrealized Losses	Estimated fair value
As of December 31, 2013					
Corporate debt securities	2 or less	$ 71,402	$ 39	$ (25)	$ 71,416
Certificates of deposit	2 or less	11,710			11,710
Commercial paper	1 or less	6,069	2		6,071
Debt securities of U.S. government-sponsored agencies	1 or less	7,000	1		7,001
Total		$ 96,181	$ 42	$ (25)	$ 96,198

4. Fair Value Measurements

We have certain financial assets and liabilities recorded at fair value which have been classified as Level 1, 2 or 3 within the fair value hierarchy as described in the accounting standards for fair value measurements.

Accounting standards define fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants as of the measurement date. Market participants are buyers and sellers in the principal market that are (i) independent, (ii) knowledgeable, (iii) able to transact, and (iv) willing to transact. The accounting standard provides an established hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs that market participants would use in valuing the asset or liability and are developed based on market data obtained from independent sources. Unobservable inputs are inputs that reflect our assumptions about the factors that market participants would use in valuing the asset or liability. The accounting standard prioritizes the inputs used in measuring the fair value into the following hierarchy:

Level 1 includes financial instruments for which quoted market prices for identical instruments are available in active markets.

Level 2 includes financial instruments for which there are inputs other than quoted prices included within Level 1 that are observable for the instrument such as quoted prices for similar instruments in

active markets, quoted prices for identical or similar instruments in markets with insufficient volume or infrequent transactions (less active markets) or model-driven valuations in which significant inputs are observable or can be derived principally from, or corroborated by, observable market data.

Level 3 includes financial instruments for which fair value is derived from valuation techniques in which one or more significant inputs are unobservable, including management s own assumptions.

The following table presents our fair value hierarchy for assets and liabilities measured at fair value on a recurring basis at June 30, 2014 and December 31, 2013 (in thousands):

	Fair value as of June 30, 2014			
	Total	**Level 1**	**Level 2**	**Level 3**
Assets:				
Cash equivalents	$ 9,614	$ 9,614	$	$
Corporate debt securities	76,099		76,099	
Certificates of deposit	13,630		13,630	
Commercial paper	3,748		3,748	
	$ 103,091	$ 9,614	$ 93,477	$
Liabilities:				
Convertible notes payable	$ 12,450	$	$	$ 12,450

Table of Contents

	Fair value as of December 31, 2013			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash equivalents	$ 17,170	$ 17,170	$	$
Corporate debt securities	71,416		71,416	
Certificates of deposit	11,710		11,710	
Debt securities of U.S. government-sponsored agencies	7,001		7,001	
Commercial paper	6,071		6,071	
	$ 113,368	$ 17,170	$ 96,198	$
Liabilities:				
Convertible notes payable	$ 11,279	$	$	$ 11,279

Changes in the estimated fair value of convertible notes payable from December 31, 2013 through June 30, 2014 are as follows (in thousands):

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)
Balance at December 31, 2013	$ 11,279
Change in estimated fair value of convertible notes payable	1,171
Balance at June 30, 2014	$ 12,450

We obtain pricing information from quoted market prices or quotes from brokers/dealers. We generally determine the fair value of our investment securities using standard observable inputs, including reported trades, broker/dealer quotes, bids and/or offers. Refer to Note 3 for information regarding our investments.

We used an income approach in the form of a convertible bond valuation model to value the convertible notes payable. The convertible bond model considered the debt and option characteristics of the note. The key inputs to the model as of June 30, 2014 and December 31, 2013 were volatility (80% and 66%, respectively), risk-free rate (0.24% and 0.325%, respectively), and credit spread (6.4% and 7.4%, respectively). The volatility inputs were based on historical and implied volatility of peer companies. Peer companies were materially consistent with those used to determine volatility for stock-based compensation. Beginning in 2014, our historical volatility was included with the peer companies for purposes of estimating volatility. As of June 30, 2014, the volatility input included 20% weighting of our historical volatility and 80% weighting of historical and implied volatility of peer companies. The risk-free rate inputs were based on the yield of US Treasury Strips as of each date. The credit spread inputs were based on an analysis of our creditworthiness and market rates for comparable straight debt instruments. We recorded a gain from the change in valuation of convertible notes payable of $1.0 million for the three months ended June 30, 2014 and a loss of $1.2 million for the six months ended June 30, 2014 on the condensed statements of operations and comprehensive loss. We recorded a loss of $2.7 million and $4.5 million, respectively, for the same periods in 2013.

5. Convertible Notes Payable

In October 2012, in conjunction with our initial public offering the amended and restated 2010 GSK Note provided for a rollover into a new promissory note (the Post-IPO GSK Note), and the Post-IPO GSK Note was established in the principal amount of $5.4 million, with a maturity date of October 9, 2015. At GSK s option, the Post-IPO GSK Note is convertible into shares of our common stock at any time prior to the maturity date with a conversion equal to the quotient of all outstanding principal and interest divided by our initial public offering price of $4.00 per share, subject to complying with certain threshold ownership percentage limitations. At June 30, 2014 and December 31, 2013, the fair value of the Post-IPO GSK Note was $12.5 million and $11.3 million, respectively, and is classified as Convertible note payable, at fair value on the condensed balance sheets.

Table of Contents

6. Stockholders Equity

Shares Reserved for Future Issuance

The following shares of common stock are reserved for future issuance:

	June 30, 2014
Common stock options outstanding	6,387,153
Common stock available for future grant	1,319,855
Employee Stock Purchase Plan	858,625
Convertible note payable (Post-IPO GSK Note)	1,437,053
Total common shares reserved for future issuance	10,002,686

The following table summarizes our stock option activity under all stock option plans for the six months ended June 30, 2014 (in thousands):

	Number of options	Weighted average exercise price
Options outstanding at December 31, 2013	5,598	$ 3.69
Granted	1,115	$ 7.71
Exercised	(273)	$ 2.03
Canceled/forfeited/expired	(53)	$ 4.89
Options outstanding at June 30, 2014	6,387	$ 4.45

Table of Contents

Stock-Based Compensation

The following table summarizes the weighted average assumptions used to estimate the fair value of stock options and performance stock awards granted to employees under our 2012 Equity Incentive Plan and the shares purchasable under our 2012 Employee Stock Purchase Plan during the periods presented:

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
Stock options				
Risk-free interest rate	1.9%	1.5%	1.9%	1.4%
Volatility	72.4%	67.6%	73.1%	67.5%
Dividend yield	0%	0%	0%	0%
Expected term (years)	6.1	6.1	6.1	6.1
Performance stock options				
Risk-free interest rate	2.0%		2.1%	
Volatility	69.0%		69.6%	
Dividend yield	0%		0%	
Expected term (years)	6.3		6.3	
Employee stock purchase plan shares				
Risk-free interest rate	0.1%	0.1%	0.1%	0.1%
Volatility	71.5%	55.6%	68.4%	57.6%
Dividend yield	0%	0%	0%	0%
Expected term (years)	0.5	0.5	0.5	0.5

The following table summarizes the allocation of our stock-based compensation expense for all stock awards during the periods presented (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
Research and development	$ 854	$ 571	$ 1,658	$ 1,070
General and administrative	830	188	1,425	476
Total	$ 1,684	$ 759	$ 3,083	$ 1,546

7. Strategic Alliances and Collaborations

The following table summarizes our total revenues from our strategic alliances and collaborations during the periods presented (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013

Sanofi	$ 18	$ 2,905	$ 944	$ 5,406
GSK	144	1,303	288	1,489
AstraZeneca	465	465	929	929
Biogen Idec	86	86	173	173
Other	23		33	
Total	$ 736	$ 4,759	$ 2,367	$ 7,997

Table of Contents

Sanofi

In July 2012, we amended and restated our collaboration and license agreement with Sanofi to expand the potential therapeutic applications of the *micro*RNA alliance targets to be developed under such agreement. We determined that the elements within the strategic alliance agreement with Sanofi should be treated as a single unit of accounting because the delivered elements did not have stand-alone value to Sanofi. The following elements were delivered as part of the strategic alliance with Sanofi: (1) a license for up to four *micro*RNA targets; and (2) a research license under our technology alliance.

In June 2013, the original research term expired, upon which we and Sanofi entered into an option agreement pursuant to which Sanofi was granted an exclusive right to negotiate the co-development and commercialization of certain of our unencumbered *micro*RNA programs and we were granted the exclusive right to negotiate with Sanofi for co-development and commercialization of certain miR-21 anti-miRs in oncology and Alport Syndrome. In July 2013, we received an upfront payment of $2.5 million, of which $1.25 million is creditable against future amounts payable by Sanofi to us under any future co-development and commercialization agreement we enter pursuant to the option agreement. Revenue associated with the creditable portion of this payment remained deferred as of June 30, 2014, and will remain deferred until its application to a creditable transaction. The non-creditable portion of this payment, $1.25 million, was recognized as revenue over the option period from the effective date of the option agreement in June 2013 through the expiration of the option period in January 2014.

In conjunction with the option agreement, we agreed to continue specified research on the miR-21 programs during the option period. We re-evaluated our remaining estimated period of performance from the original research term through the term of the option agreement and amortized the remaining deferred revenue of $10.1 million associated with the initial $25.0 million upfront payment from June 2013 through the expiration of the option period in January 2014.

In February 2014, we and Sanofi entered into a second amended and restated collaboration and license agreement (the 2014 Sanofi Amendment) to renew our strategic alliance to discover, develop and commercialize *micro*RNA therapeutics to focus on specific orphan disease and oncology targets. Under the terms of our renewed alliance, Sanofi will have opt-in rights to our preclinical fibrosis program targeting miR-21 for the treatment of Alport Syndrome, our preclinical program targeting miR-21 for oncology indications, and our preclinical program targeting miR-221/222 for hepatocellular carcinoma (HCC). We are responsible for developing each of these programs to proof-of-concept, at which time Sanofi has an exclusive option on each program. If Sanofi chooses to exercise its option on any of these programs, Sanofi will reimburse us for a significant portion of our preclinical and clinical development costs and will also pay us an option exercise fee for any such program, provided that $1.25 million of the $2.5 million upfront option fee paid to us by Sanofi in connection with the June 2013 option agreement will be creditable against such option exercise fee. In addition, we will be eligible to receive clinical and regulatory milestone payments and potentially commercial milestone payments for these programs. We also continue to be eligible to receive royalties on *micro*RNA therapeutic products commercialized by Sanofi and will have the right to co-promote these products.

In connection with the 2014 Sanofi Amendment, we entered into a Common Stock Purchase Agreement (the Purchase Agreement), pursuant to which we sold 1,303,780 shares of our common stock to Aventis Holdings, Inc. (Aventis), an entity affiliated with Sanofi, in a private placement at a price per share of $7.67 for an aggregate purchase price of $10.0 million. Under the terms of the Purchase Agreement, Aventis may not sell, transfer, make any short sale of, or grant any option for the sale of any common stock for a 12-month period following its effective date. The Purchase Agreement and the 2014 Sanofi Amendment were negotiated concurrently and were therefore evaluated as a single agreement. Based upon restricted stock studies of similar duration and a Black-Scholes valuation to measure the discount for lack of marketability, approximately $0.4 million of the proceeds from the Purchase Agreement was

attributed to the 2014 Sanofi Amendment, and represents consideration for the value of the program targeting miR-221/222 for HCC. As this element does not have stand-alone value, we are recognizing the $0.4 million into revenue ratably over the estimated period of performance of the miR-221/222 program. As of June 30, 2014, deferred revenue associated with the Purchase Agreement and the 2014 Sanofi Amendment was $0.4 million, which we are expecting to recognize over the remaining estimated period of performance of approximately six years.

We have evaluated the remaining contingent event-based payments under our 2014 Sanofi Amendment and determined that event-based payments for which payment is contingent upon the results of Sanofi s performance will be recognized as revenue over our remaining estimated period of performance, if any, and when collectability is reasonably assured. We are eligible to receive milestone payments of up to $101.8 million for proof-of-concept option exercise fees (net of $1.25 million creditable, as noted above), $15.0 million for clinical milestones and up to $300.0 million for regulatory and commercial milestones. In addition, we are entitled to receive royalties based on a percentage of net sales of any products from the miR-21 and miR-221/222 programs which, in the case of sales in the United States, will be in the middle of the 10 to 20% range, and, in the case of sales outside of the United States, will range from the low end to the middle of the 10 to 20% range, depending upon the volume of sales. If we exercise our option to co-promote a product, we will continue to be eligible to receive royalties on net sales of each product in the United States at the same rate, unless we elect to share a portion of Sanofi s profits from sales of such product in the United States in lieu of royalties.

Table of Contents

GSK

In April 2008, we entered into a strategic alliance with GSK to discover, develop and commercialize novel *micro*RNA-targeted therapeutics to treat inflammatory diseases (the immuno-inflammatory alliance). In February 2010, we and GSK expanded the strategic alliance to include hepatitis C virus infection (HCV) to discover, develop and commercialize *micro*RNA therapeutics targeting miR-122 for the treatment of HCV (the HCV alliance). In June 2012, we amended our immuno-inflammatory alliance to extend the target selection period for the fourth collaboration target. We determined that the elements within the immuno-inflammatory alliance should be treated as a single unit of accounting because the delivered elements, the opt-in licenses for *micro*RNA product candidates, did not have stand-alone value to GSK. As a result of the extension of the target selection period, we extended the amortization period for the remaining deferred revenue to approximately eight years, which represented our new estimated period of performance. As of June 30, 2014, deferred revenue associated with the immuno-inflammatory alliance was $3.2 million, which we are expecting to recognize over the remaining estimated period of performance of approximately six years.

In June 2013, the HCV alliance was amended to state that RG-101, and other formulations thereof, will be developed by us independently of our alliance for the treatment of HCV. This amendment removed any further milestone or royalty obligations owed by GSK to us as it relates to RG-101. Concurrently with the amendment in June 2013, we recorded the remaining $1.1 million in deferred revenue associated with the upfront payment from the HCV alliance, as our estimated period of performance was complete.

Immuno-Inflammatory Alliance

Under the terms of the immuno-inflammatory alliance, if all the product candidates are successfully developed and commercialized through pre-agreed sales targets we could receive milestone payments up to $432.5 million, including up to $15.5 million for preclinical milestones, up to $87.0 million for clinical milestones, up to $150.0 million for regulatory milestones and up to $180.0 million for commercialization milestones. We are also entitled to receive tiered royalties as a percentage of annual sales which can increase up to the low end of the 10 to 20% range.

We have evaluated the remaining contingent event-based payments under our immuno-inflammatory alliance and determined that the preclinical and clinical payments meet the definition of a substantive milestone. Accordingly, revenue for these achievements will be recognized in its entirety in the period when the milestone is achieved and collectability is reasonably assured. Other contingent event-based payments under the strategic alliance agreement for which payment is contingent upon the results of GSK s performance will not be accounted for using the milestone method. Such payments will be recognized as revenue over the remaining estimated period of performance, if any, and when collectability is reasonably assured. We can earn the following preclinical milestones: $0.5 million upon the selection of a fourth *micro*RNA target and $5.0 million upon the selection of a development candidate for each of the selected three targets. We can also earn the following clinical milestones for each of the selected three targets: $4.0 million for the initiation of a Phase 1 clinical trial; $5.0 million for the initiation of a Phase 2 clinical trial; and $20.0 million if GSK chooses to opt-in to the program following the completion of a proof-of-concept trial.

HCV Alliance

Notwithstanding the foregoing, GSK has retained its interest in the miR-122 program in HCV, and miR-122 remains a collaboration target under the alliance. If the HCV program is successful, we could receive contractual milestone payments up to $144.5 million, including up to $5.5 million for preclinical milestones, up to $29.0 million for clinical milestones, up to $50.0 million for regulatory milestones and up to $60.0 million for commercialization milestones. We are also entitled to receive tiered royalties which can increase up to the low end of the 10 to 20% range on sales

from any product that GSK successfully commercializes under this alliance.

We have evaluated the remaining contingent event-based payments under the HCV alliance and determined that the preclinical and clinical payments meet the definition of a substantive milestone. Accordingly, revenue for these achievements will be recognized in its entirety in the period when the milestone is achieved and collectability is reasonably assured. Other contingent event-based payments under the strategic alliance agreement for which payment is contingent upon the results of GSK s performance will not be accounted for using the milestone method. Such payments will be recognized as revenue over the remaining estimated period of performance, if any, and when collectability is reasonably assured. We can earn a preclinical milestone of $5.5 million upon the selection of a development candidate. We can also earn the following clinical milestones: $4.0 million for initiation of a Phase 1 clinical trial; $5.0 million for the initiation of a Phase 2 clinical trial; and $20.0 million if GSK chooses to opt-in to the program following the completion of a proof-of-concept trial. We have no obligation to perform any research or development activities under the HCV alliance unless mutually agreed upon by the parties.

Table of Contents

AstraZeneca

In August 2012, we entered into a collaboration and license agreement with AstraZeneca. Under the terms of the agreement, we have agreed to collaborate with AstraZeneca to identify, research and develop compounds targeting three *micro*RNA alliance targets primarily in the fields of cardiovascular diseases, metabolic diseases and oncology. Pursuant to the agreement, we granted AstraZeneca an exclusive, worldwide license to thereafter develop, manufacture and commercialize lead compounds designated by AstraZeneca in the course of the collaboration activities against the alliance targets for all human therapeutic uses. Under the terms of the agreement we are required to use commercially reasonable efforts to perform all research, development and manufacturing activities described in the research plan, at our cost, until the acceptance of an investigational new drug application (IND) or the end of the research term, which extends until the fourth anniversary of the date of the agreement, and may be extended only by mutual written agreement of us and AstraZeneca. Following the earlier to occur of the acceptance of an IND in a major market or the end of the research term, AstraZeneca will assume all costs, responsibilities and obligations for further development, manufacture and commercialization of alliance product candidates.

Under the terms of the agreement, we received an upfront payment of $3.0 million in October 2012. We determined the elements within the strategic alliance agreement should be treated as a single unit of accounting because the delivered element, the license, does not have stand-alone value. As a result, we are recognizing revenue related to the upfront payment on a straight-line basis over our estimated period of performance, which is four years based on the expected term of the research and development plan. If all three targets are successfully developed and commercialized through pre-agreed sales targets, we could receive milestone payments up to $498.0 million, including preclinical milestones of up to $5.0 million upon lead compound identification, up to $123.0 million for clinical milestones, and up to $370.0 million for commercialization milestones. In addition, we are entitled to receive royalties based on a percentage of net sales which will range from the mid-single digits to the low end of 10 to 20%, depending upon the product and the volume of sales, which royalties may be reduced in certain, limited circumstances.

We have evaluated the contingent event-based payments under our strategic alliance agreement with AstraZeneca and determined that the preclinical payments meet the definition of substantive milestones. Accordingly, revenue for these achievements will be recognized in its entirety in the period when the milestone is achieved and collectability is reasonably assured. Other contingent event-based payments under the strategic alliance agreement for which payment is contingent upon the results of AstraZeneca s performance will not be accounted for using the milestone method. Such payments will be recognized as revenue over the remaining estimated period of performance, if any, and when collectability is reasonably assured.

Concurrently with the collaboration and license agreement, we entered into a Common Stock Purchase Agreement (CSPA) with AstraZeneca, pursuant to which we agreed to sell to AstraZeneca an aggregate of $25.0 million of our common stock in a private placement concurrently with our initial public offering, at a price per share equal to the initial public offering price. In October 2012, in accordance with the CSPA, we sold AstraZeneca 6,250,000 shares of our common stock at a price per share of $4.00. Further, the CSPA stipulated that AstraZeneca could not sell, transfer, make any short sale of, or grant any option for the sale of any common stock for a 365-day period following the effective date of our initial public offering. Accounting standards for multiple element arrangements contains a presumption that separate contracts negotiated and/or entered into at or near the same time with the same entity were negotiated as a package and should be evaluated as a single agreement. We valued the discount applied to the shares of common stock due to the one-year restriction. Based upon restricted stock studies of similar duration and a Black-Scholes valuation to measure a discount for lack of marketability, $4.3 million was attributed to the collaboration and license agreement. We continue to recognize the $4.3 million into revenue ratably over the estimated period of performance of the collaboration. As of June 30, 2014, deferred revenue associated with the

collaboration and license agreement and CSPA was $3.9 million, which we are expecting to recognize over the remaining contractual term and corresponding estimated period of performance of approximately two years.

Biogen Idec

In August 2012, we entered into a collaboration and license agreement with Biogen Idec pursuant to which we and Biogen Idec have agreed to collaborate on *micro*RNA biomarkers for multiple sclerosis (MS). Under the terms of the agreement, we granted Biogen Idec an exclusive, royalty free, worldwide license to our interest in the collaboration intellectual property for the purpose of commercializing non-*micro*RNA products for the treatment, diagnosis and prevention of MS and non-MS diseases and disorders. We also granted Biogen Idec an exclusive, royalty-free, worldwide license, with the right to sublicense, to our interest in the collaboration intellectual property (and a non-exclusive license to our background intellectual property) for the purpose of commercializing products for the diagnosis of MS. We also granted Biogen Idec a right of first negotiation on certain commercial transactions relating to *micro*RNA products which utilize intellectual property developed during the collaboration. Pursuant to the terms of the agreement, in August 2012 we received an upfront payment of $0.8 million. We are also eligible to receive research milestone payments up to an aggregate of $1.3 million. We considered the elements within the collaboration and license agreement as a single unit of accounting because the delivered element, the license, does not have stand-alone value. As a result, we are recognizing revenue relating to the upfront payment of $0.8 million on a straight-line basis over our estimated period of performance, which was approximately two years based on the original expected term of the research and development plan.

Table of Contents

Concurrently with the collaboration and license agreement, we entered into a note purchase agreement with Biogen Idec, pursuant to which we issued a convertible promissory note in the principal amount of $5.0 million. The $5.0 million note plus accrued interest converted into 1,256,232 shares of our common stock upon the closing of our initial public offering in October 2012 at a conversion price of $4.00 per share.

In June 2013, we amended the collaboration and license agreement to provide for revised terms with respect to Phase I of the research plan and related milestone payment provisions. The Biogen Idec amendment does not modify the maximum dollar amount we were originally eligible to receive in connection with Phase I milestones under the Biogen Idec agreement, or our estimated period of performance.

We have evaluated the contingent event-based payments under our collaboration and license agreement with Biogen Idec and determined that the research payments meet the definition of substantive milestones. Accordingly, revenue for these achievements will be recognized in its entirety in the period when the milestone is achieved and collectability is reasonably assured. In October 2013 and November 2013, we received research milestone payments totaling $0.3 million. In addition, we can earn the following research milestones: $0.5 million for validation of the *micro*RNA biomarker in a second independent sample set; and $0.5 million upon the refinement of the *micro*RNA biomarker signature from a longitudinal study of patient samples on MS therapy. As of June 30, 2014, deferred revenue associated with the collaboration and license agreement was $0.1 million, which we are expecting to recognize over the remaining period of performance of four months.

8. Related Party Transactions

We have entered into several agreements with related parties in the ordinary course of business to license intellectual property and to procure administrative and research and development support services.

In August 2013, we entered into an amendment to the Amended and Restated License and Collaboration Agreement with Isis Pharmaceuticals, Inc. (Isis) and Alnylam Pharmaceuticals, Inc. (Alnylam) dated January 1, 2009, as amended in June 2010 and October 2011 (as amended, the Amendment). Under the terms of the Amendment, the parties agreed to our use of certain Alnylam-controlled intellectual property concerning the use and manufacture of GalNAc conjugates (GalNAc Process Technology) on a non-exclusive basis. We will generally not be permitted to sublicense or otherwise transfer the GalNAc Process Technology and other Alnylam licensed intellectual property rights relating to GalNAc conjugate technology without the prior written consent of Alnylam, subject to certain limited exceptions for sublicenses to third party collaboration partners. There were no financial terms related to this Amendment. Pursuant to our Amended and Restated Services Agreement with Alnylam dated January 1, 2009, we purchased GalNAc-related materials from Alnylam during the six months ended June 30, 2013.

The following table summarizes the amounts included in our operating expenses as a result of costs incurred from services provided under the Services Agreement (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
Services performed or out-of-pocket expenses paid to Alnylam	$	$ 104	$	$ 447

9. Subsequent Events

In August 2014, we and Biogen Idec entered into a new collaboration and license agreement focused on identifying microRNAs as biomarkers for multiple sclerosis under our Regulus microMarkers division. Under the terms of the new collaboration and license agreement, we will receive an upfront payment of $2.0 million and are eligible to receive future payments upon achievement of certain milestones related to the identification of potential microRNA signatures. Simultaneously with the execution of the new collaboration and license agreement, we executed a termination agreement for the previous collaboration and license agreement (see Note 7).

Table of Contents

ITEM 2. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The interim unaudited condensed financial statements and this Management s Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with the financial statements and notes thereto for the year ended December 31, 2013 and the related Management s Discussion and Analysis of Financial Condition and Results of Operations, both of which are contained in our Annual Report on Form 10-K for the year ended December 31, 2013, or Annual Report, filed with the Securities and Exchange Commission on February 28, 2014. Past operating results are not necessarily indicative of results that may occur in future periods.

FORWARD-LOOKING STATEMENTS

This quarterly report on Form 10-Q and the documents incorporated by reference herein may contain forward-looking statements within the meaning of the federal securities laws made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth below under Part II, Item 1A, Risk Factors in this quarterly report on Form 10-Q. Except as required by law, we assume no obligation to update these forward-looking statements, whether as a result of new information, future events or otherwise. These statements, which represent our current expectations or beliefs concerning various future events, may contain words such as may, will, expect, anticipate, intend, plan, believe, estimate or other words indicating future results. Such statem include, but are not limited to, statements concerning the following:

- the initiation, cost, timing, progress and results of our research and development activities, preclinical studies and future clinical trials;
- our ability to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- our ability to obtain funding for our operations;
- our plans to research, develop and commercialize our product candidates;
- our strategic alliance partners election to pursue development and commercialization;
- our ability to attract collaborators with development, regulatory and commercialization expertise;
- our ability to obtain and maintain intellectual property protection for our product candidates;

the size and growth potential of the markets for our product candidates, and our ability to serve those markets;

our ability to successfully commercialize our product candidates;

the rate and degree of market acceptance of our product candidates;

our ability to develop sales and marketing capabilities, whether alone or with potential future collaborators;

regulatory developments in the United States and foreign countries;

the performance of our third-party suppliers and manufacturers;

the success of competing therapies that are or may become available;

the loss of key scientific or management personnel;

our ability to successfully secure and deploy capital;

our ability to satisfy our debt obligations;

our expectations regarding the time during which we will be an emerging growth company under the Jumpstart our Business Startups Act of 2012, or the JOBS Act;

our use of the proceeds from our initial public offering and concurrent private placement or our subsequent public offering in July 2013;

the accuracy of our estimates regarding expenses, future revenues, capital requirements and need for additional financing; and

the additional risks and other factors described under the caption Risk Factors under Item 1A of this quarterly report on Form 10-Q.

Table of Contents

OVERVIEW

We are a biopharmaceutical company focused on discovering and developing first-in-class drugs that target *micro*RNAs to treat a broad range of diseases. We were formed in 2007 when Alnylam and Isis contributed significant intellectual property, know-how and financial and human capital to pursue the development of drugs targeting *micro*RNAs pursuant to a license and collaboration agreement. We have established strategic alliances with AstraZeneca, GSK and Sanofi to discover, develop and commercialize *micro*RNA therapeutics. Under these strategic alliances, we are eligible to receive up to approximately $1.5 billion in milestone payments upon successful commercialization of *micro*RNA therapeutics for the programs contemplated by our agreements. These payments include up to $128.0 million upon achievement of preclinical and IND milestones, up to $254.0 million upon achievement of clinical development milestones, up to $380.0 million upon achievement of regulatory milestones and up to $730.0 million upon achievement of commercialization milestones.

*micro*RNAs are recently discovered, naturally occurring ribonucleic acid, or RNA, molecules that play a critical role in regulating key biological pathways. Scientific research has shown that the improper balance, or dysregulation, of *micro*RNAs is directly linked to many diseases. We believe we have assembled the leading position in the *micro*RNA field, including expertise in *micro*RNA biology and oligonucleotide chemistry, a broad intellectual property estate, key opinion leaders and disciplined drug discovery and development processes. We refer to these assets as our *micro*RNA product platform. We are using our *micro*RNA product platform to develop chemically modified, single-stranded oligonucleotides that we call anti-miRs. We use these anti-miRs to modulate *micro*RNAs and by doing so return diseased cells to their healthy state. We believe *micro*RNAs may be transformative in the field of drug discovery and that anti-miRs may become a new and major class of drugs with broad therapeutic application much like small molecules, biologics and monoclonal antibodies.

In addition to our *micro*RNA product platform, we have established Regulus *micro*Markers , a research and development division focused on identifying *micro*RNAs as biomarkers of human disease to support our therapeutic pipeline, collaborators and strategic partners. Regulus *micro*Markers utilizes a clinically-validated, highly reproducible, proprietary technology platform to identify *micro*RNAs as potential biomarkers for disease and we control key intellectual property and know-how related to the division. We believe that *micro*RNA biomarkers are of significant value and may be used to select optimal patient segments for our clinical trials and the clinical trials of our strategic alliance partners and collaborators. We have a research collaboration with Biogen Idec to identify *micro*RNA biomarkers for multiple sclerosis, and more recently, we entered into an arrangement with another leading, commercial-stage pharmaceutical company to explore *micro*RNAs as biomarkers for specific patient populations.

Currently, we are pursuing several *micro*RNA targets across multiple therapeutic areas to advance our therapeutics pipeline, with a primary focus on orphan diseases and oncology, both independently and with our strategic alliance partners. In February 2014, we launched our Clinical Map Initiative , which outlines certain corporate goals and objectives to advance our *micro*RNA therapeutic pipeline over the next several years. Under our Initiative , we intend to report human proof-of-concept results in the Phase I clinical study of RG-101, our anti-miR targeting *micro*RNA-122 (miR-122) for the treatment of HCV by the end of 2014. Our second *micro*RNA candidate for clinical development is RG-012, an anti-miR targeting *micro*RNA-21 (miR-21) for the treatment of Alport syndrome, a life-threatening kidney disease driven by genetic mutations with no approved therapy. We expect to initiate a Phase I clinical study of RG-012 for the treatment of Alport Syndrome in the first half of 2015 and to nominate a third *micro*RNA candidate for clinical development by the end of 2014. Additionally, we expect to maintain a strong financial position and end 2014 with at least $75.0 million in cash, cash equivalents and short-term investments.

FINANCIAL OPERATIONS OVERVIEW

Revenues

Our revenues generally consist of upfront payments for licenses or options to obtain licenses in the future, research and development funding and milestone payments under strategic alliance agreements, as well as funding received under government grants.

In the future, we may generate revenue from a combination of license fees and other upfront payments, research and development payments, milestone payments, product sales and royalties in connection with strategic alliances. We expect that any revenue we generate will fluctuate from quarter-to-quarter as a result of the timing of our achievement of preclinical, clinical, regulatory and commercialization milestones, if at all, the timing and amount of payments relating to such milestones and the extent to which any of our products are approved and successfully commercialized by us or our strategic alliance partners. If our strategic

Table of Contents

alliance partners do not elect or otherwise agree to fund our development costs pursuant to our strategic alliance agreements, or we or our strategic alliance partners fail to develop product candidates in a timely manner or obtain regulatory approval for them, our ability to generate future revenues, and our results of operations and financial position would be adversely affected.

Research and development expenses

Research and development expenses consist of costs associated with our research activities, including our drug discovery efforts, the development of our therapeutic programs, and our Regulus *micro*Markers™ division. Our research and development expenses include:

- employee-related expenses, including salaries, benefits, travel and stock-based compensation expense;
- external research and development expenses incurred under arrangements with third parties, such as contract research organizations, or CROs, contract manufacturing organizations, or CMOs, other clinical trial related vendors, consultants and our scientific advisory board;
- license fees; and
- facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation of leasehold improvements and equipment, and laboratory and other supplies.

We expense research and development costs as incurred. We account for nonrefundable advance payments for goods and services that will be used in future research and development activities as expenses when the service has been performed or when the goods have been received.

To date, we have conducted research on many different *micro*RNAs with the goal of understanding how they function and identifying those that might be targets for therapeutic modulation. At any given time we are working on multiple targets, primarily within our therapeutic areas of focus. Our organization is structured to allow the rapid deployment and shifting of resources to focus on the best targets based on our ongoing research. As a result, in the early phase of our development, our research and development costs are not tied to any specific target. However, we are currently spending the vast majority of our research and development resources on our lead development programs.

Since our conversion to a corporation in January 2009, we have grown from 15 research and development personnel to 64 and have spent a total of approximately $117.2 million in research and development expenses through June 30, 2014.

We expect our research and development expenses to increase for the foreseeable future as we continue to advance our research programs toward the clinic and initiate additional clinical trials. The process of conducting preclinical studies and clinical trials necessary to obtain regulatory approval is costly and time consuming. We, or our strategic alliance partners, may never succeed in achieving marketing approval for any of our product candidates. The probability of success for each product candidate may be affected by numerous factors, including preclinical data, clinical data, competition, manufacturing capability and commercial viability. Under our strategic alliance with GSK,

we may be responsible for the development of product candidates through clinical proof-of-concept, depending on the time at which GSK may choose to exercise its option to obtain an exclusive license to develop, manufacture and commercialize product candidates on a program-by-program basis. Under our strategic alliance with Sanofi, we are responsible for the development of product candidates through proof-of-concept, after which time Sanofi would be responsible for the costs of clinical development and commercialization and all related costs, in the event it exercises its option to such program. Under our strategic alliance agreement with AstraZeneca, we are responsible for certain research and development activities with respect to each alliance target under a mutually agreed upon research and development plan until the earlier to occur of IND approval in a major market or the end of the research term under the agreement. We also have several independent programs for which we are responsible for all of the research and development costs, unless and until we partner any of these programs in the future.

Most of our product development programs are at an early stage, and successful development of future product candidates from these programs is highly uncertain and may not result in approved products. Completion dates and completion costs can vary significantly for each future product candidate and are difficult to predict. We anticipate we will make determinations as to which programs to pursue and how much funding to direct to each program on an ongoing basis in response to our ability to maintain or enter into new strategic alliances with respect to each program or potential product candidate, the scientific and clinical success of each future product candidate, as well as ongoing assessments as to each future product candidate s commercial potential. We will need to raise additional capital and may seek additional strategic alliances in the future in order to advance our various programs.

General and administrative expenses

General and administrative expenses consist primarily of salaries and related benefits, including stock-based compensation, related to our executive, finance, legal, business development and support functions. Other general and administrative expenses

Table of Contents

include allocated facility-related costs not otherwise included in research and development expenses, travel expenses and professional fees for auditing, tax and legal services. We expect that general and administrative expenses will increase in the future as we expand our operating activities and incur additional costs associated with being a publicly-traded company. These increases will likely include legal fees, accounting fees, directors and officers liability insurance premiums and fees associated with investor relations.

Other income (expense), net

Other income (expense) consists primarily of interest income and expense, and on occasion income or expense of a non-recurring nature, including changes in the valuation of convertible notes payable from period to period. We earn interest income from interest-bearing accounts and money market funds for cash and cash equivalents and marketable securities, such as interest-bearing bonds, for our short-term investments. Interest expense has historically represented interest payable under convertible notes payable and equipment and tenant improvement financing arrangements.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities, and the revenues and expenses incurred during the reported periods. We believe that the estimates, assumptions and judgments involved in the accounting policies described in Management s Discussion and Analysis of Financial Condition and Results of Operations in Item 7 and under Note 1 to our financial statements contained in our Annual Report have the greatest potential impact on our financial statements, so we consider them to be our critical accounting policies and estimates. There were no material changes to our critical accounting policies and estimates during the quarter ended June 30, 2014.

RESULTS OF OPERATIONS

Comparison of the three and six months ended June 30, 2014 and 2013

The following table summarizes our results of operations for the three and six months ended June 30, 2014 and 2013, together with the changes in those items in dollars (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Revenue under strategic alliances	$ 736	$ 4,759	$ 2,367	$ 7,997
Research and development expenses	10,795	7,722	20,399	14,604
General and administrative expenses	2,954	1,723	5,686	3,628
Gain (loss) from valuation of convertible notes payable	953	(2,697)	(1,171)	(4,458)

Revenue under strategic alliances

Our revenues are generated from ongoing strategic alliance and collaborations, and generally consist of upfront payments for licenses or options to obtain licenses in the future, research and development funding and milestone payments. The following table summarizes our total revenues for the periods indicated (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Sanofi	$ 18	$ 2,905	$ 944	$ 5,406
AstraZeneca	465	465	929	929
GSK	144	1,303	288	1,489
Biogen Idec	86	86	173	173
Other	23		33	
Total revenues under strategic alliances and collaborations	$ 736	$ 4,759	$ 2,367	$ 7,997

Revenue under strategic alliances were $0.7 million and $2.4 million for the three and six months ended June 30, 2014, respectively, compared to $4.8 million and $8.0 million, respectively, for the same periods in 2013.

In February 2014, we and Sanofi entered into a second amended and restated collaboration and license agreement (2014 Sanofi Amendment) to renew our strategic alliance to discover, develop and commercialize *micro*RNA therapeutics to focus on

Table of Contents

specific orphan disease and oncology targets. Revenue recognized from our strategic alliance with Sanofi decreased to less than $0.1 million and $0.9 million for the three and six months ended June 30, 2014, respectively, compared to $2.9 million and $5.4 million for the three and six months ended June 30, 2013, respectively. This change was primarily a result of the expiration of the research term under the July 2012 Sanofi amended and restated agreement in June 2013 and amortization of payment associated with our estimated period of performance through the July 2013 option period, which expired in January 2014.

In June 2013, our product development and commercialization agreement with GSK was amended to clarify that RG-101, and other formulations thereof, will be developed by us independently of our alliance with GSK for the treatment of HCV infection. In June 2013, we accelerated the remaining unamortized $1.1 million associated with the upfront payment from the February 2010 amendment that expanded our agreement with GSK to include potential *micro*RNA therapeutics for the treatment of HCV, due to the completion of our remaining performance obligations. Due to this amendment and resulting acceleration in 2013, revenue recognized from our strategic alliance with GSK decreased to $0.1 million and $0.3 million for the three and six months ended June 30, 2014, respectively, compared to $1.3 million and $1.5 million for the three and six months ended June 30, 2013, respectively.

Revenue from our other strategic alliances was materially consistent for the three and six months ended June 30, 2014, compared to the three and six months ended June 30, 2013.

As of June 30, 2014, we had $9.5 million of deferred revenue, which consisted of payments received through our strategic alliances that have not yet been recognized in accordance with our revenue recognition policies and remaining estimated period of performance.

Research and development expenses

Research and development expenses were $10.8 million and $20.4 million for the three and six months ended June 30, 2014, respectively, compared to $7.7 million and $14.6 million for the three and six months ended June 30, 2013, respectively. This increase was primarily driven by the initiation of a Phase I clinical study for RG-101, IND-enabling costs for RG-012 and the continued advancement of other pre-clinical programs totaling $4.0 million and $7.3 million for the three and six months ended June 30, 2014, respectively, compared to pre-clinical development costs of $1.4 million and $2.2 million for the three and six months ended June 30, 2013, respectively. We had 64 employees engaged in research and development activities as of June 30, 2014, compared to 55 as of June 30, 2013. We expect our research and development expenses to continue to increase to the extent we continue clinical studies and initiate additional pre-clinical and clinical programs.

General and administrative expenses

General and administrative expenses were $3.0 million and $5.7 million for the three and six months ended June 30, 2014, respectively, compared to $1.7 million and $3.6 million for the three and six months ended June 30, 2013, respectively. This increase was primarily driven by an increase in salaries and related employee costs of $0.8 million and $1.1 million for the three and six months ended June 30, 2014, respectively, compared to the three and six months ended June 30, 2013, in addition to an increase in operating expenses associated with general business activities.

Gain (loss) from valuation of convertible notes payable

We recorded a gain from the change in value of convertible notes payable of $1.0 million in the three months ended June 30, 2014, which was principally caused by a decrease in our stock price at June 30, 2014 compared to March 31, 2014. We recorded a loss from the change in value of convertible notes payable of $2.7 million for the three months

ended June 30, 2013 and a loss of $1.2 million and $4.5 million for the six months ended June 30, 2014 and June 30, 2013, respectively. Losses recorded from changes in value were primarily driven by increases in our stock price during the respective periods.

LIQUIDITY AND CAPITAL RESOURCES

Since our inception through June 30, 2014, we have received $65.5 million principally from upfront payments, research funding and preclinical milestones from our strategic alliances and collaborations, $180.8 million from the sale of our equity and convertible debt securities, including $70.0 million in net proceeds from our initial public offering and concurrent private placement of our common stock in October 2012, and $2.5 million from government grants and loans.

Table of Contents

As of June 30, 2014, we had $103.5 million in cash, cash equivalents and short-term investments, which will be sufficient to fund our operations for at least the next 12 months. The following table shows a summary of our cash flows for the six months ended June 30, 2014 and 2013 (in thousands):

	Six months ended June 30,	
	2014	2013
	(unaudited)	
Net cash (used in) provided by:		
Operating activities	$ (19,051)	$ (14,587)
Investing activities	1,054	(7,028)
Financing activities	10,214	233
Total	$ (7,783)	$ (21,382)

Operating activities

Net cash used in operating activities was $19.1 million for the six months ended June 30, 2014, compared to $14.6 million for the six months ended June 30, 2013. The increase in net cash used in operating activities was attributable in part to a net loss of $24.7 million for the six months ended June 30, 2014 compared to a net loss of $14.6 million for the six months ended June 30, 2013. Adjustments for non-cash charges decreased by $1.4 million for the six months ended June 30, 2014, primarily as a result of a $3.3 million decrease associated with the change in value of convertible notes payable, offset by an increase in stock-based compensation of $1.5 million. Changes in working capital resulted in net cash used in operating activities of $0.2 million for the six months ended June 30, 2014, compared to $7.3 million for the six months ended June 30, 2013. This reduction was primarily driven by the amortization of deferred revenue associated with upfront payments, compared to the period of revenue recognition.

Investing activities

Net cash provided by or used in investing activities for the periods presented primarily relate to the net of purchases, sales and maturities of investments used to fund the day-to-day needs of our business. We invest cash in excess of our immediate operating requirements in such a way that maturity is staggered to optimize our return on investment, while satisfying the liquidity needs of the company. As such, for the six months ended June 30, 2014 and 2013, net cash provided by or used in investing activities primarily reflects the net purchase of short-term investments, offset by sales and maturities. The sales and maturities of short-term investments was $50.1 million and $13.3 million for the six months ended June 30, 2014 and 2013, respectively. Purchases of short-term investments were $48.3 million and $20.0 million for the six months ended June 30, 2014 and 2013, respectively.

Financing activities

Net cash provided by financing activities was $10.2 million for the six months ended June 30, 2014, compared to $0.2 million for the six months ended June 30, 2013. The increase in net cash provided by financing activities is primarily a result of the 2014 Sanofi Amendment and concurrent Common Stock Purchase Agreement with Aventisub LLC (formerly Avantis Holdings), which was completed in February 2014, and included a private placement of our common stock with proceeds of $9.6 million, which excludes $0.4 million in proceeds from the private placement attributed to the 2014 Sanofi Amendment.

CONTRACTUAL OBLIGATIONS AND COMMITMENTS

As of June 30, 2014, there were no material changes, outside of the ordinary course of business, in our outstanding contractual obligations from those disclosed within Management s Discussion and Analysis of Financial Condition and Results of Operations , in our Annual Report.

Off-Balance Sheet Arrangements

As of June 30, 2014, we did not have any off-balance sheet arrangements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Some of the securities that we invest in have market risk in that a change in prevailing interest rates may cause the principal amount of the marketable securities to fluctuate. Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of cash, cash equivalents and short-term investments. We invest our excess cash primarily in commercial paper and debt instruments of financial institutions, corporations, U.S. government-sponsored agencies and the U.S. Treasury. The primary objectives of our investment activities are to ensure liquidity and to preserve principal while at the same time maximizing the income we receive from our marketable securities without significantly increasing risk. Additionally, we established guidelines regarding approved investments and maturities of investments, which are designed to maintain safety and liquidity.

Because of the short-term maturities of our cash equivalents and marketable securities, we do not believe that an increase in market rates would have any significant impact on the realized value of our marketable securities. If a 10% change in interest rates were to have occurred on June 30, 2014, this change would not have had a material effect on the fair value of our investment portfolio as of that date.

Table of Contents

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our periodic and current reports that we file with the SEC is recorded, processed, summarized and reported within the time periods specified in the SEC s rules and forms, and that such information is accumulated and communicated to our management, including our chief executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable and not absolute assurance of achieving the desired control objectives. In reaching a reasonable level of assurance, management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. In addition, the design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, control may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

As of June 30, 2014, we carried out an evaluation, under the supervision and with the participation of our management, including our chief executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended. Based on this evaluation, our chief executive officer and principal financial officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of June 30, 2014.

An evaluation was also performed under the supervision and with the participation of our management, including our chief executive officer and our principal financial officer, of any change in our internal control over financial reporting that occurred during our last fiscal quarter and that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. That evaluation did not identify any change in our internal control over financial reporting that occurred during our latest fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

None.

ITEM 1A. RISK FACTORS

You should carefully consider the following risk factors, as well as the other information in this report, before deciding whether to purchase, hold or sell shares of our common stock. The occurrence of any of the following risks could harm our business, financial condition, results of operations and/or growth prospects or cause our actual results to differ materially from those contained in forward-looking statements we have made in this report and those we may make from time to time. You should consider all of the factors described when evaluating our business. The risk factors set forth below that are marked with an asterisk (*) contain changes to the similarly titled risk factors included in Item 1A of our Annual Report. If any of the following risks actually occurs, our business, financial

condition, results of operations and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock would likely decline.

RISKS RELATED TO OUR FINANCIAL CONDITION AND NEED FOR ADDITIONAL CAPITAL

We have a limited operating history, have incurred significant losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future.*

We are a preclinical-stage, biopharmaceutical discovery and development company, formed in 2007, with a limited operating history. Since inception, our operations have been primarily limited to organizing and staffing our company, acquiring and in-licensing intellectual property rights, developing our *micro*RNA product platform, undertaking basic research around *micro*RNA targets and conducting preclinical studies for our initial programs. We have recently initiated clinical development of RG-101 and have not yet obtained regulatory approval for any product candidates. Consequently, any predictions about our future success or viability, or any evaluation of our business and prospects, may not be accurate.

Table of Contents

We have incurred losses in each year since our inception in September 2007. Our net losses were $12.0 million and $7.3 million for the three months ended June 30, 2014 and 2013, respectively and $24.7 million and $14.6 million for the six months ended June 30, 2014 and 2013 respectively. As of June 30, 2014, we had an accumulated deficit of $103.8 million.

We have devoted most of our financial resources to research and development, including our preclinical development activities. To date, we have financed our operations primarily through the sale of equity securities and convertible debt and from revenue received from our strategic alliance partners. We have entered into strategic alliances with Sanofi relating to the development of our miR-21 programs for HCC and kidney fibrosis and our miR-221/222 program for oncology indications, with GSK to develop our miR-122 program for HCV, and with AstraZeneca, to develop metabolic and oncology programs. Under our agreements with Sanofi and GSK, Sanofi and GSK each have an option to obtain exclusive worldwide licenses for the development, manufacture and commercialization of potential product candidates selected from our programs. If either of Sanofi or GSK exercises their respective options to obtain a license to develop, manufacture and commercialize such product candidates, such party will assume responsibility for funding and conducting further clinical development and commercialization activities for such product candidates. However, if either of these parties does not exercise its option within the timeframes that we expect, or at all, we will be responsible for funding further development of the applicable product candidates and may not have the resources to do so unless we are able to enter into another strategic alliance for these product candidates. The size of our future net losses will depend, in part, on the rate of future expenditures and our ability to obtain funding through equity or debt financings, strategic alliances or grants. We have only recently initiated clinical development of any product candidate and it will be several years, if ever, before we have a product candidate ready for commercialization. Even if we or our strategic alliance partners successfully obtain regulatory approval to market a product candidate, our revenues will also depend upon the size of any markets in which our product candidates have received market approval, and our ability to achieve sufficient market acceptance and adequate market share for our products.

We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. The net losses we incur may fluctuate significantly from quarter to quarter. We anticipate that our expenses will increase substantially if and as we: continue our research and preclinical and clinical development of our product candidates, both independently and under our strategic alliance agreements; seek to identify additional *micro*RNA targets and product candidates; acquire or in-license other products and technologies; initiate clinical trials for our product candidates; seek marketing approvals for our product candidates that successfully complete clinical trials; ultimately establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain marketing approval; maintain, expand and protect our intellectual property portfolio; hire additional clinical, quality control and scientific personnel; and create additional infrastructure to support our operations as a public company and our product development and planned future commercialization efforts.

We have never generated any revenue from product sales and may never be profitable.

Our ability to generate revenue and achieve profitability depends on our ability, alone or with strategic alliance partners, to successfully complete the development of, obtain the necessary regulatory approvals for and commercialize product candidates. We do not anticipate generating revenues from sales of products for the foreseeable future, if ever. Our ability to generate future revenues from product sales depends heavily on our success in:

- identifying and validating new *micro*RNAs as therapeutic targets;

completing our research and preclinical development of future product candidates;

initiating and completing clinical trials for future product candidates;

seeking and obtaining marketing approvals for future product candidates that successfully complete clinical trials;

establishing and maintaining supply and manufacturing relationships with third parties;

launching and commercializing future product candidates for which we obtain marketing approval, with an alliance partner or, if launched independently, successfully establishing a sales force, marketing and distribution infrastructure;

maintaining, protecting and expanding our intellectual property portfolio; and

attracting, hiring and retaining qualified personnel.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to predict the timing or amount of increased expenses and when we will be able to achieve or maintain profitability, if ever. In addition, our expenses could increase beyond expectations if we are required by the FDA or foreign regulatory agencies to perform studies and trials in addition to those that we currently anticipate.

Table of Contents

Even if one or more of the future product candidates that we independently develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Even if we are able to generate revenues from the sale of any approved products, we may not become profitable and may need to obtain additional funding to continue operations.

We may need to raise additional capital, which may not be available on acceptable terms, or at all.

Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is expensive. We expect our research and development expenses to substantially increase in connection with our ongoing activities, particularly as we advance our product candidates toward clinical programs. We will need to raise additional capital to support our operations and such funding may not be available to us on acceptable terms, or at all.

As we move our lead compounds through toxicology and other preclinical studies, also referred to as nonclinical studies, required to file an IND, and as we conduct clinical development of RG-101, RG-012 and any other future product candidates, we may have adverse results requiring mitigation strategies that may cause us to consume additional capital. Additionally, our strategic alliance partners may not elect to pursue the development and commercialization of any of our *micro*RNA product candidates that are subject to their respective strategic alliance agreements with us. Any of these events may increase our development costs more than we expect. We may need to raise additional capital or otherwise obtain funding through strategic alliances if we choose to initiate clinical trials for new product candidates other than programs currently partnered. In any event, we will require additional capital to obtain regulatory approval for, and to commercialize, future product candidates. Raising funds in the current economic environment, when the capital markets have been affected by the global recession, may present additional challenges.

If we are required to secure additional financing, such additional fundraising efforts may divert our management from our day-to-day activities, which may adversely affect our ability to develop and commercialize future product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. If we are unable to raise additional capital when required or on acceptable terms, we may be required to:

- significantly delay, scale back or discontinue the development or commercialization of any future product candidates;
- seek strategic alliances for research and development programs at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available; or
- relinquish or license on unfavorable terms, our rights to technologies or any future product candidates that we otherwise would seek to develop or commercialize ourselves.

If we are required to conduct additional fundraising activities and we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we will be prevented from pursuing development and commercialization efforts, which will have a material adverse effect on our business, operating results and prospects.

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and

could cause our stock price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. These sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders. Pursuant to our 2012 Equity Incentive Plan, or the 2012 Plan, our management is authorized to grant stock options and other equity-based awards to our employees, directors and consultants. The number of shares available for future grant under the 2012 Plan will automatically increase each year by up to 4% of all shares of our capital stock outstanding as of December 31 of the prior calendar year, subject to the ability of our board of directors to take action to reduce the size of the increase in any given year. Any such increase, of the maximum amount or a lesser amount, will cause our stockholders to experience additional dilution, which could cause our stock price to fall. Currently, we plan to register the increased number of shares available for issuance under the 2012 Plan each year.

RISKS RELATED TO THE DISCOVERY AND DEVELOPMENT OF PRODUCT CANDIDATES

The approach we are taking to discover and develop drugs is novel and may never lead to marketable products.

We have concentrated our therapeutic product research and development efforts on *micro*RNA technology, and our future success depends on the successful development of this technology and products based on our *micro*RNA product platform. Neither we

Table of Contents

nor any other company has received regulatory approval to market therapeutics targeting *micro*RNAs. The scientific discoveries that form the basis for our efforts to discover and develop product candidates are relatively new. The scientific evidence to support the feasibility of developing product candidates based on these discoveries is both preliminary and limited. If we do not successfully develop and commercialize product candidates based upon our technological approach, we may not become profitable and the value of our common stock may decline.

Further, our focus solely on *micro*RNA technology for developing drugs as opposed to multiple, more proven technologies for drug development increases the risks associated with the ownership of our common stock. If we are not successful in developing any product candidates using *micro*RNA technology, we may be required to change the scope and direction of our product development activities. In that case, we may not be able to identify and implement successfully an alternative product development strategy.

We may not be successful in our efforts to identify or discover potential product candidates.

The success of our business depends primarily upon our ability to identify, develop and commercialize *micro*RNA therapeutics. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for a number of reasons, including:

- our research methodology or that of our strategic alliance partners may be unsuccessful in identifying potential product candidates;
- potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval; or
- our strategic alliance partners may change their development profiles for potential product candidates or abandon a therapeutic area.

If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

Preclinical testing and clinical trials of our product candidates may not be successful. If we are unable to successfully complete preclinical testing and clinical trials of our product candidates or experience significant delays in doing so, our business will be materially harmed.*

We have invested a significant portion of our efforts and financial resources in the identification and preclinical development of product candidates that target *micro*RNAs. Our ability to generate product revenues, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of our product candidates.

The success of our future product candidates will depend on several factors, including the following:

successful completion of preclinical studies and clinical trials;

receipt of marketing approvals from applicable regulatory authorities;

obtaining and maintaining patent and trade secret protection for future product candidates;

establishing and maintaining manufacturing relationships with third parties or establishing our own manufacturing capability; and

successfully commercializing our products, if and when approved, whether alone or in collaboration with others.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully complete the development of, or commercialize, our product candidates, which would materially harm our business.

If clinical trials of our product candidates fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.*

Before obtaining marketing approval from regulatory authorities for the sale of product candidates, we or our strategic alliance partners must then conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidates in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. The outcome of preclinical studies and early clinical

Table of Contents

trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for their products.

Events which may result in a delay or unsuccessful completion of clinical development include:

- delays in reaching an agreement with the FDA or other regulatory authorities on final trial design;
- imposition of a clinical hold following an inspection of our clinical trial operations or trial sites by the FDA or other regulatory authorities;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites;
- our inability to adhere to clinical trial requirements directly or with third parties such as CROs;
- delays in obtaining required institutional review board approval at each clinical trial site;
- delays in recruiting suitable patients to participate in a trial;
- delays in the testing, validation, manufacturing and delivery of the product candidates to the clinical sites;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- delays caused by patients dropping out of a trial due to product side effects or disease progression;
- clinical sites dropping out of a trial to the detriment of enrollment;
- time required to add new clinical sites; or
- delays by our contract manufacturers to produce and deliver sufficient supply of clinical trial materials.

If we or our strategic alliance partners are required to conduct additional clinical trials or other testing of any product candidates beyond those that are currently contemplated, are unable to successfully complete clinical trials of any such product candidates or other testing, or if the results of these trials or tests are not positive or are only modestly positive

or if there are safety concerns, we or our strategic alliance partners may:

- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to additional post-marketing testing requirements; or
- have the product removed from the market after obtaining marketing approval.

Our product development costs will also increase if we experience delays in testing or marketing approvals. We do not know whether any clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which would impair our ability to successfully commercialize our product candidates and may harm our business and results of operations. Any inability to successfully complete preclinical and clinical development, whether independently or with our strategic alliance partners, could result in additional costs to us or impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties.

Any of our product candidates may cause adverse effects or have other properties that could delay or prevent their regulatory approval or limit the scope of any approved label or market acceptance.*

Adverse events, or AEs, caused by our product candidates could cause us, other reviewing entities, clinical trial sites or regulatory authorities to interrupt, delay or halt clinical trials and could result in the denial of regulatory approval. Certain oligonucleotide therapeutics have shown injection site reactions and pro-inflammatory effects and may also lead to impairment of kidney or liver function. There is a risk that our future product candidates may induce similar adverse events.

Table of Contents

If AEs are observed in any clinical trials of our product candidates, including those that our strategic partners may develop under our alliance agreements, our or our partners ability to obtain regulatory approval for product candidates may be negatively impacted.

Further, if any of our future products, if and when approved for commercial sale, cause serious or unexpected side effects, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of the product or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy;
- regulatory authorities may require the addition of labeling statements, such as warnings or contraindications;
- we may be required to change the way the product is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients; or
- our reputation may suffer.

Any of these events could prevent us or our partners from achieving or maintaining market acceptance of the affected product and could substantially increase the costs of commercializing our future products and impair our ability to generate revenues from the commercialization of these products either by us or by our strategic alliance partners.

Even if we complete the necessary preclinical studies and clinical trials, we cannot predict whether or when we will obtain regulatory approval to commercialize a product candidate and we cannot, therefore, predict the timing of any revenue from a future product.

Neither we nor our strategic alliance partners can commercialize a product until the appropriate regulatory authorities, such as the FDA, have reviewed and approved the product candidate. The regulatory agencies may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval. Additional delays may result if an FDA Advisory Committee recommends restrictions on approval or recommends non-approval. In addition, we or our strategic alliance partners may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory agency policy during the period of product development, clinical trials and the review process.

Even if we obtain regulatory approval for a product candidate, we will still face extensive regulatory requirements and our products may face future development and regulatory difficulties.

Even if we obtain regulatory approval in the United States, the FDA may still impose significant restrictions on the indicated uses or marketing of our product candidates, or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance. The holder of an approved NDA is obligated to monitor and report AEs and any failure of a product to meet the specifications in the NDA. The holder of an approved NDA must also submit new or supplemental applications and obtain FDA approval for certain changes to the approved product,

product labeling or manufacturing process. Advertising and promotional materials must comply with FDA rules and are subject to FDA review, in addition to other potentially applicable federal and state laws.

In addition, drug product manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with current good manufacturing practices, or cGMP, and adherence to commitments made in the NDA. If we or a regulatory agency discovers previously unknown problems with a product such as AEs of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions relative to that product or the manufacturing facility, including requiring recall or withdrawal of the product from the market or suspension of manufacturing.

If we or our partners fail to comply with applicable regulatory requirements following approval of any of our product candidates, a regulatory agency may:

issue a warning letter asserting that we are in violation of the law;

seek an injunction or impose civil or criminal penalties or monetary fines;

suspend or withdraw regulatory approval;

suspend any ongoing clinical trials;

refuse to approve a pending NDA or supplements to an NDA submitted by us;

Table of Contents

seize product; or

refuse to allow us to enter into supply contracts, including government contracts.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize our future products and generate revenues.

We may not be successful in obtaining or maintaining necessary rights to *micro*RNA targets, drug compounds and processes for our development pipeline through acquisitions and in-licenses.

Presently we have rights to the intellectual property, through licenses from third parties and under patents that we own, to modulate only a subset of the known *micro*RNA targets. Because our programs may involve a range of *micro*RNA targets, including targets that require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license or use these proprietary rights. In addition, our product candidates may require specific formulations to work effectively and efficiently and these rights may be held by others. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities.

For example, we sometimes collaborate with U.S. and foreign academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution s rights in technology resulting from the collaboration. Regardless of such right of first negotiation for intellectual property, we may be unable to negotiate a license within the specified time frame or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our program.

In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment. If we are unable to successfully obtain rights to required third-party intellectual property rights, our business, financial condition and prospects for growth could suffer.

We may use our financial and human resources to pursue a particular research program or product candidate and fail to capitalize on programs or product candidates that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and human resources, we intend to leverage our existing strategic alliance agreements and enter into new strategic alliance agreements for the development and commercialization of our programs and potential product candidates in indications with potentially large commercial markets such as HCC, fibrosis and HCV, while focusing our internal development resources and any internal sales and marketing organization that we may establish on research programs and product candidates for selected markets, such as orphan diseases. As a result, we may forego or delay pursuit of opportunities with other programs or product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on research and development programs and product candidates for specific indications may not yield any commercially viable

products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through strategic alliance, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate, or we may allocate internal resources to a product candidate in a therapeutic area in which it would have been more advantageous to enter into a partnering arrangement.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Table of Contents

Although we maintain workers compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials or other work-related injuries, this insurance may not provide adequate coverage against potential liabilities. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

RISKS RELATED TO OUR RELIANCE ON THIRD PARTIES

We will depend upon our strategic alliances for the development and eventual commercialization of certain *micro*RNA product candidates. If these strategic alliances are unsuccessful or are terminated, we may be unable to commercialize certain product candidates and we may be unable to generate revenues from our development programs.*

We are likely to depend upon third party alliance partners for financial and scientific resources for the clinical development and commercialization of certain of our *micro*RNA product candidates. These strategic alliances will likely provide us with limited control over the course of development of a *micro*RNA product candidate, especially once a candidate has reached the stage of clinical development. For example, in our alliances with Sanofi and GSK, Sanofi and GSK each have the option to obtain an exclusive worldwide license to develop, manufacture and commercialize product candidates upon the achievement of relevant endpoints in clinical trials. However, neither Sanofi nor GSK is under any obligation to exercise these options to progress any of our *micro*RNA development candidates. While each of AstraZeneca, GSK and Sanofi have development obligations with respect to programs that they may elect to pursue under their respective agreements, our ability to ultimately recognize revenue from these relationships will depend upon the ability and willingness of our alliance partners to successfully meet their respective responsibilities under our agreements with them. Our ability to recognize revenues from successful strategic alliances may be impaired by several factors including:

- an alliance partner may shift its priorities and resources away from our programs due to a change in business strategies, or a merger, acquisition, sale or downsizing of its company or business unit;
- an alliance partner may cease development in therapeutic areas which are the subject of our strategic alliances;
- an alliance partner may change the success criteria for a particular program or potential product candidate thereby delaying or ceasing development of such program or candidate;
- a significant delay in initiation of certain development activities by an alliance partner will also delay payment of milestones tied to such activities, thereby impacting our ability to fund our own activities;
- an alliance partner could develop a product that competes, either directly or indirectly, with an alliance product;

an alliance partner with commercialization obligations may not commit sufficient financial or human resources to the marketing, distribution or sale of a product;

an alliance partner with manufacturing responsibilities may encounter