

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

FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended September 30, 2018

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: 001-35867

CHIMERIX, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware

(State or Other Jurisdiction of Incorporation or Organization)

33-0903395

(I.R.S. Employer Identification No.)

2505 Meridian Parkway, Suite 100

Durham, North Carolina

(Address of Principal Executive Offices)

27713

(Zip Code)

(919) 806-1074

(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 No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). Yes No

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

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

As of October 31, 2018, the number of outstanding shares of the registrant's common stock, par value \$0.001 per share, was 50,724,102.

CHIMERIX, INC.

FORM 10-Q FOR THE QUARTER ENDED SEPTEMBER 30, 2018

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PART I - FINANCIAL INFORMATION

ITEM 1. CONSOLIDATED FINANCIAL STATEMENTS

CHIMERIX, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)
(unaudited)

	September 30, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 22,991	\$ 18,548
Short-term investments, available-for-sale	160,367	132,972
Accounts receivable	332	1,682
Prepaid expenses and other current assets	3,028	3,331
Total current assets	186,718	156,533
Long-term investments	10,564	76,731
Property and equipment, net of accumulated depreciation	1,363	1,894
Other long-term assets	51	72
Total assets	<u>\$ 198,696</u>	<u>\$ 235,230</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 1,609	\$ 3,812
Accrued liabilities	7,776	9,384
Total current liabilities	9,385	13,196
Lease-related obligations	167	224
Total liabilities	9,552	13,420
Stockholders' equity:		
Preferred stock, \$0.001 par value, 10,000,000 shares authorized at September 30, 2018 and December 31, 2017; no shares issued and outstanding as of September 30, 2018 and December 31, 2017	—	—
Common stock, \$0.001 par value, 200,000,000 shares authorized at September 30, 2018 and December 31, 2017; 50,627,237 and 47,505,532 shares issued and outstanding as of September 30, 2018 and December 31, 2017, respectively	51	47
Additional paid-in capital	731,060	709,514
Accumulated other comprehensive loss, net	(661)	(963)
Accumulated deficit	(541,306)	(486,788)
Total stockholders' equity	189,144	221,810
Total liabilities and stockholders' equity	<u>\$ 198,696</u>	<u>\$ 235,230</u>

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

CHIMERIX, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(in thousands, except share and per share data)
(unaudited)

	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Contract revenue	\$ 369	\$ 897	\$ 2,352	\$ 2,650
Operating expenses:				
Research and development	11,892	12,157	39,963	36,535
General and administrative	5,187	6,650	18,575	19,530
Total operating expenses	<u>17,079</u>	<u>18,807</u>	<u>58,538</u>	<u>56,065</u>
Loss from operations	(16,710)	(17,910)	(56,186)	(53,415)
Other (expense) income:				
Unrealized loss on equity investment	(99)	—	(311)	—
Interest income	730	598	1,979	1,669
Net loss	<u>(16,079)</u>	<u>(17,312)</u>	<u>(54,518)</u>	<u>(51,746)</u>
Other comprehensive loss:				
Unrealized gain (loss) on investments, net	180	(6)	302	(1,041)
Comprehensive loss	<u>\$ (15,899)</u>	<u>\$ (17,318)</u>	<u>\$ (54,216)</u>	<u>\$ (52,787)</u>
Per share information:				
Net loss, basic and diluted	<u>\$ (0.33)</u>	<u>\$ (0.37)</u>	<u>\$ (1.14)</u>	<u>\$ (1.10)</u>
Weighted-average shares outstanding, basic and diluted	<u>48,172,354</u>	<u>47,065,756</u>	<u>47,875,895</u>	<u>46,836,099</u>

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

CHIMERIX, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2018	2017
Cash flows from operating activities:		
Net loss	\$ (54,518)	\$ (51,746)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation of property and equipment	691	828
Amortization of premium/discount on investments	(447)	49
Share-based compensation	10,608	12,478
Unrealized loss on equity investment	311	—
Amortization of lease-related obligations	(44)	(298)
Changes in operating assets and liabilities:		
Accounts receivable	1,350	1,328
Prepaid expenses and other assets	202	268
Accounts payable and accrued liabilities	(3,578)	(909)
Net cash used in operating activities	<u>(45,425)</u>	<u>(38,002)</u>
Cash flows from investing activities:		
Purchases of property and equipment	(160)	(30)
Purchases of short-term investments	(59,259)	—
Purchases of long-term investments	(6,031)	(144,536)
Proceeds from sales of short-term investments	26,000	4,000
Proceeds from maturities of short-term investments	78,500	144,445
Net cash provided by investing activities	<u>39,050</u>	<u>3,879</u>
Cash flows from financing activities:		
Proceeds from exercise of stock options	115	121
Proceeds from employee stock purchase plan	606	712
Payments of deferred offering costs	(363)	—
Proceeds from issuance of common stock, net of commissions	10,460	—
Net cash provided by financing activities	<u>10,818</u>	<u>833</u>
Net increase (decrease) in cash and cash equivalents	4,443	(33,290)
Cash and cash equivalents:		
Beginning of period	18,548	51,463
End of period	<u>\$ 22,991</u>	<u>\$ 18,173</u>

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

CHIMERIX, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

Note 1. The Business and Summary of Significant Accounting Policies

Description of Business

Chimerix, Inc. (the Company) is a biopharmaceutical company committed to discovering, developing and commercializing medicines that improve outcomes for immunocompromised patients. The Company was founded in 2000 based on the promise of its proprietary lipid conjugate technology to unlock the potential of some of the most broad-spectrum antivirals by enhancing their antiviral activity and safety profiles in convenient dosing regimens. The Company's lead compound, brincidofovir, is in development as an oral and intravenous (IV) formulation for the prevention and treatment of DNA viruses, including smallpox, adenoviruses, and the human herpesviruses. The Company is developing CMX521, the first clinical-stage direct-acting antiviral specifically for the treatment and prevention of norovirus. In addition, the Company has an active discovery program focusing on viral targets for which limited or no therapies are currently available.

Basis of Presentation

The accompanying unaudited consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. The accompanying unaudited consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) for interim financial information, 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 and should be read in conjunction with the Company's audited financial statements and notes thereto included in its Annual Report on Form 10-K for the year ended December 31, 2017. In the opinion of the Company's management, all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of its financial position, operating results and cash flows for the periods presented have been included. Operating results for the three and nine months ended September 30, 2018 are not necessarily indicative of the results that may be expected for the full year, for any other interim period or for any future year.

Fair Value of Financial Instruments

The carrying amounts of certain financial instruments, including accounts receivable, accounts payable and accrued expenses approximate their fair values due to the short-term nature of such instruments.

For assets and liabilities recorded at fair value, it is the Company's policy to maximize the use of observable inputs and minimize the use of unobservable inputs when developing fair value measurements, in accordance with the fair value hierarchy. Fair value measurements for assets and liabilities where there exists limited or no observable market data are based primarily upon estimates and are often calculated based on the economic and competitive environment, the characteristics of the asset or liability and other factors. Therefore, fair value measurements cannot be determined with precision and may not be realized in an actual sale or immediate settlement of the asset or liability. Additionally, there may be inherent weaknesses in any calculation technique and changes in the underlying assumptions used, including discount rates and estimates of future cash flows, could significantly affect the calculated current or future fair values. The Company utilizes fair value measurements to record fair value adjustments to certain assets and liabilities and to determine fair value disclosures.

The Company groups assets and liabilities at fair value in three levels, based on the markets in which the assets and liabilities are traded and the reliability of the assumptions used to determine fair value. The determination of where an asset or liability falls in the hierarchy requires significant judgment. These levels are:

- *Level 1* — Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access.
- *Level 2* — Valuations based on quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and models for which all significant inputs are observable, either directly or indirectly.
- *Level 3* — Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

At September 30, 2018 and December 31, 2017, the Company had cash equivalents including money market accounts and short-term investments and long-term investments including U.S. Treasury securities, whose value is based on using quoted market prices. Accordingly, these securities are classified as Level 1.

At September 30, 2018 and December 31, 2017, the Company had short-term investments including stock of a U.S. corporation. The Company's investment in ContraVir Pharmaceuticals (ContraVir) common stock was categorized as a Level 1 asset and value based on ContraVir's common stock value at September 30, 2018 and December 31, 2017. For the three and nine months ended September 30, 2018, the Company recorded \$0.1 million and \$0.3 million, respectively, of unrealized loss related to the Company's investment in ContraVir common stock to unrealized loss on equity investment in the Consolidated Statements of Operations and Comprehensive Loss. For the three and nine months ended September 30, 2017, the Company recorded \$0.1 million and \$0.7 million, respectively, of unrealized loss related to the Company's investment in ContraVir common stock to unrealized gain (loss) on investments, net in the Consolidated Statements of Operations and Comprehensive Loss.

At September 30, 2018 and December 31, 2017, the Company had cash equivalents including commercial paper, and at September 30, 2018, the Company had short-term investments including corporate bonds and commercial paper. As quoted prices are not available for these securities, they are valued using independent pricing models or other model-based valuation techniques such as the present value of future cash flows, adjusted for the security's credit rating, prepayment assumptions and other factors such as credit loss assumptions. Accordingly, these securities are classified as Level 2.

There was no material re-measurement to fair value of financial assets and liabilities that are not measured at fair value on a recurring basis. For additional information regarding the Company's investments, please refer to Note 2, "Investments."

Below are tables that present information about certain assets measured at fair value on a recurring basis (in thousands):

Fair Value Measurements				
September 30, 2018				
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents				
Money market funds	\$ 10,231	\$ 10,231	\$ —	\$ —
Commercial paper	1,996	—	1,996	—
Total cash equivalents	12,227	10,231	1,996	—
Short-term investments				
Corporate bonds	11,447	—	11,447	—
Commercial paper	38,004	—	38,004	—
U.S. treasury securities	110,841	110,841	—	—
Common stock of U.S. corporation	75	75	—	—
Total short-term investments	160,367	110,916	49,451	—
Long-term investments				
U.S. treasury securities	10,564	10,564	—	—
Total long-term investments	10,564	10,564	—	—
Total	\$ 183,158	\$ 131,711	\$ 51,447	\$ —

Fair Value Measurements				
December 31, 2017				
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents				
Money market funds	\$ 10,816	\$ 10,816	\$ —	\$ —
Commercial paper	3,995	—	3,995	—
Total cash equivalents	14,811	10,816	3,995	—
Short-term investments				
U.S. treasury securities	132,586	132,586	—	—
Common stock of U.S. corporation	386	386	—	—
Total short-term investments	132,972	132,972	—	—
Long-term investments				
U.S. treasury securities	76,731	76,731	—	—
Total long-term investments	76,731	76,731	—	—
Total	\$ 224,514	\$ 220,519	\$ 3,995	\$ —

Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	September 30, 2018	December 31, 2017
Accrued research and development expenses	\$ 5,161	\$ 3,384
Accrued compensation	1,764	3,678
Other accrued liabilities	851	1,322
Accrued indemnification claim	—	1,000
Total accrued liabilities	\$ 7,776	\$ 9,384

Revenue Recognition

Policy

The Company's revenues generally consist of (i) contract revenue - revenue generated under federal contracts, and (ii) collaboration and licensing revenue - revenue related to non-refundable upfront fees, royalties and milestone payments earned under license agreements. Revenue is recognized in accordance with the criteria outlined in Accounting Standards Codification (ASC) 606 issued by the Financial Accounting Standards Board (FASB). Following this accounting pronouncement, a five-step approach is applied for recognizing revenue, including (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations in the contract; and (5) recognize revenue when, or as, the entity satisfies a performance obligation.

Biomedical Advanced Research and Development Authority (BARDA)

In February 2011, the Company entered into a contract with BARDA for the advanced development of brincidofovir as a medical countermeasure in the event of a smallpox release. Under the contract, the Company may receive up to \$75.8 million in expense reimbursement and \$5.3 million in fees over the performance of 1 base segment and 4 option segments. Exercise of each option segment is solely at the discretion of BARDA. Currently, option segments 1 through 3 have been exercised. The Company assessed the services in accordance with the authoritative guidance and concluded that there is a potential of 5 separate contracts (1 base segment and 4 option segments) within this agreement, each of which has a single performance obligation. The transaction price for each segment, based on the transaction price as defined in each segment contract, is allocated to the single performance obligation for each contract. The transaction price is recognized over time by measuring the progress toward complete satisfaction of the performance obligation. The progress toward complete satisfaction is estimated based on the costs incurred to date relative to the total estimated costs per the terms of each contract. The Company typically invoices BARDA monthly as costs are incurred. The base segment and first option segment were completed prior to adoption of ASC 606. The Company is currently performing under the second and third option segments of the contract during which the Company may receive up to a total of \$21.6 million and \$14.1 million in expense reimbursement and fees, respectively. The second and third option segments are scheduled to end on March 30, 2019.

ContraVir Pharmaceuticals

The Company entered into a license agreement with ContraVir on December 17, 2014 for the development and commercialization of CMX157 for certain antiviral indications. The Company is eligible to receive up to approximately \$20 million in clinical, regulatory and initial commercial milestones as well as royalties and additional milestones based on commercial sales. The Company assessed the agreement in accordance with the authoritative guidance and concluded that the ContraVir contract includes multiple performance obligations, which had all been satisfied in 2015 prior to the adoption of ASC 606. The ContraVir contract has one fixed and several variable transaction amounts. The fixed fee portion of the contract was for the license to CMX157 rights. The Company recognized revenue for the fixed fee portion of the contract in 2015 when the performance obligations were satisfied. All variable transaction amounts, which relate to clinical, regulatory and commercial milestones as well as royalties and milestones based on commercial sales, are fully constrained. The Company will begin recognizing revenue on the variable transaction amounts when those transaction amounts are no longer fully constrained.

Research and Development Prepays and Accruals

As part of the process of preparing financial statements, the Company is required to estimate its expenses resulting from its obligation under contracts with vendors and consultants and clinical site agreements in connection with its research and development efforts. The financial terms of these contracts are subject to negotiations which vary contract to contract and may result in payment

flows that do not match the periods over which materials or services are provided to the Company under such contracts.

The Company's objective is to reflect the appropriate research and development expenses in its financial statements by matching those expenses with the period in which services and efforts are expended. The Company accounts for these expenses according to the progress of its research and development efforts. The Company determines prepaid and accrual estimates through discussion with applicable personnel and outside service providers as to the progress or state of communication of clinical trials, or other services completed. The Company adjusts its rate of research and development expense recognition if actual results differ from its estimates. The Company makes estimates of its prepaid and accrued expenses as of each balance sheet date in its financial statements based on facts and circumstances known at that time. Although the Company does not expect its estimates to be materially different from amounts actually incurred, its understanding of status and timing of services performed relative to the actual status and timing of services performed may vary and may result in the Company reporting amounts that are too high or too low for any particular period. Through September 30, 2018, there had been no material adjustments to the Company's prior period estimates of prepaid and accruals for research and development expenses. The Company's research and development prepaids and accruals are dependent upon the timely and accurate reporting of contract research organizations and other third-party vendors.

Basic and Diluted Net Loss Per Share of Common Stock

Basic net loss per share of common stock is computed by dividing net loss by the weighted-average number of shares of common stock outstanding during the period, excluding the dilutive effects of warrants to purchase common stock, non-vested restricted stock, stock options, and employee stock purchase plan purchase rights. Diluted net loss per share of common stock is computed by dividing net loss by the sum of the weighted-average number of shares of common stock outstanding during the period plus the potential dilutive effects of warrants to purchase common stock, non-vested restricted stock, stock options, and employee stock purchase plan purchase rights outstanding during the period calculated in accordance with the treasury stock method, but are excluded if their effect is anti-dilutive. Because the impact of these items is anti-dilutive during the periods of net loss, there was no difference between basic and diluted loss per share of common stock for the three and nine months ended September 30, 2018 and 2017.

Impact of Recently Issued Accounting Standards

In February 2016, the FASB issued Accounting Standards Update (ASU) No. 2016-02, "Leases (Topic 842)", which increases transparency and comparability among companies accounting for lease transactions. The most significant change of this update will require the recognition of lease assets and liabilities on the balance sheet for lessees for operating lease arrangements with lease terms greater than 12 months. This update will require a modified retrospective application which includes a number of optional practical expedients related to the identification and classification of leases commenced before the effective date. This ASU is effective for financial statements issued for annual periods and interim periods within those annual periods, beginning after December 15, 2018. The Company is currently analyzing the impact of the adoption of ASU No. 2016-02 on its consolidated financial statements.

Impact of Recently Adopted Accounting Standards

In May 2014, the FASB issued ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)." The ASU establishes a principles-based approach for accounting for revenue arising from contracts with customers and supersedes existing revenue recognition guidance. The ASU provides that an entity should apply a five-step approach for recognizing revenue, including (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations in the contract; and (5) recognize revenue when, or as, the entity satisfies a performance obligation. Also, the entity must provide various disclosures concerning the nature, amount and timing of revenue and cash flows arising from contracts with customers. The FASB has issued several updates to the standard which (1) deferred the original effective date to annual periods and interim periods within those annual periods beginning after December 15, 2017, while allowing for early adoption as of January 1, 2017 (ASU 2015-14); (2) clarify the application of the principal versus agent guidance (ASU 2016-08); and (3) clarify the guidance on inconsequential and perfunctory promises and licensing (ASU 2016-10). The Company adopted ASU No. 2014-09 as of January 1, 2018 using the full retrospective approach and determined that there was no impact on its consolidated financial statements. In preparation for adoption of the standard, the Company implemented internal controls to enable the preparation of financial information, including the assessment of the impact of the standard.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments-Overall (Subtopic 825-10)-Recognition and Measurement of Financial Assets and Financial Liabilities." The new standard enhances reporting for financial instruments. The ASU is effective for financial statements issued for annual periods and interim periods within those annual periods beginning after December 15, 2017. The Company adopted ASU No. 2016-01 on January 1, 2018 on a prospective basis. As a result of this

standard, changes in fair value of available-for-sale equity securities that were previously recognized in other comprehensive income are now recognized in earnings. As of January 1, 2018, the Company had no unrealized gains or losses in other comprehensive income that had to be reclassified to retained earnings.

Note 2. Investments

The following tables summarize the Company's short-term and long-term debt investments (in thousands):

	September 30, 2018			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Corporate bonds	\$ 11,456	\$ —	\$ (9)	\$ 11,447
U.S. treasury securities	122,033	—	(628)	121,405
Commercial paper	38,028	—	(24)	38,004
Total investments	\$ 171,517	\$ —	\$ (661)	\$ 170,856

	December 31, 2017			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. treasury securities	\$ 210,280	\$ —	\$ (963)	\$ 209,317
Total investments	\$ 210,280	\$ —	\$ (963)	\$ 209,317

The following tables summarize the Company's debt investments with unrealized losses, aggregated by investment type and the length of time that individual investments have been in a continuous unrealized loss position (in thousands, except number of securities):

	September 30, 2018					
	Less than 12 Months		Greater than 12 Months		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Corporate bonds	\$ 11,447	\$ (9)	\$ —	\$ —	\$ 11,447	\$ (9)
Commercial paper	38,004	(24)	—	—	38,004	(24)
U.S. treasury securities	30,049	(176)	91,356	(452)	121,405	(628)
Total	\$ 79,500	\$ (209)	\$ 91,356	\$ (452)	\$ 170,856	\$ (661)
Number of securities with unrealized losses	27		21		48	

	December 31, 2017					
	Less than 12 Months		Greater than 12 Months		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
U.S. treasury securities	\$ 170,390	\$ (871)	\$ 38,927	\$ (92)	\$ 209,317	\$ (963)
Total	\$ 170,390	\$ (871)	\$ 38,927	\$ (92)	\$ 209,317	\$ (963)
Number of securities with unrealized losses	39		7		46	

The Company periodically reviews available-for-sale securities for other-than-temporary declines in fair value below the cost basis and whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The Company evaluates, among other things, the duration and extent to which the fair value of a security is less than its cost; the financial condition of the issuer and any changes thereto; and the Company's intent to sell, or whether it will more likely than not be required to sell, the security before recovery of its cost basis. At September 30, 2018, the Company did not intend to sell, and

was not more likely than not to be required to sell, the available-for-sale debt securities in an unrealized loss position before recovery of the cost basis of the securities, which may be at maturity. There were no such declines in value for the three and nine months ended September 30, 2018 and 2017. Unrealized gains and losses on debt investments are recorded to unrealized gain (loss) on investments, net in the Consolidated Statements of Operations and Comprehensive Loss. The Company recognizes interest income on an accrual basis in interest income in the Consolidated Statements of Operations and Comprehensive Loss.

The following table summarizes the scheduled maturity for the Company's debt investments at September 30, 2018 (in thousands):

Maturing in one year or less	\$ 160,292
Maturing after one year through two years	10,564
Total debt investments	<u>170,856</u>
Common stock of U.S. corporation	75
Total investments	<u>\$ 170,931</u>

Note 3. Commitments and Contingencies

Leases

The Company leases its facilities and certain office equipment under long-term non-cancelable operating leases that expire at various dates through 2021. Rent expense under non-cancelable operating leases and other month-to-month equipment rental agreements, including common area maintenance fees, totaled approximately \$0.2 million and \$0.1 million for the three months ended September 30, 2018 and 2017, respectively, and \$0.5 million and \$0.4 million for the nine months ended September 30, 2018 and 2017, respectively.

Significance of Revenue Source

The Company is the recipient of federal research contract funds from BARDA, the sole source of the Company's contract revenue. Periodic audits are required under the Company's BARDA agreement and certain costs may be questioned as appropriate under the BARDA agreement. Management believes that such amounts in the current year, if any, are not significant. Accordingly, no provision for refundable amounts under the BARDA agreement had been made as of September 30, 2018 and December 31, 2017.

Note 4. Equity Transactions and Share-based Compensation

Warrants

During the three and nine months ended September 30, 2018, there were no exercises of warrants for the purchase of shares of the Company's common stock. All outstanding warrants expired in February 2018. As of September 30, 2018 no warrants were outstanding.

Stock Options

In connection with the Company's IPO, the Company adopted the 2013 Equity Incentive Plan (the 2013 Plan). The 2013 Plan provides for the grant of incentive stock options (ISOs), non-statutory stock options (NSOs), stock appreciation rights, restricted stock awards, restricted stock unit (RSU) awards, performance-based stock awards, and other forms of equity compensation (collectively, stock awards), all of which may be granted to employees, including officers, non-employee directors and consultants of the Company and its affiliates. Additionally, the 2013 Plan provides for the grant of performance cash awards. The number of shares of common stock reserved for future issuance automatically increases on January 1 of each calendar year by 4% of the total number of shares of capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by the Company's board of directors. On January 1, 2018, the common stock reserved for issuance under the 2013 Plan was automatically increased by 1.9 million shares. As of September 30, 2018, there was a total of 1.5 million shares reserved for future issuance under the 2013 Plan. The Company issued no shares of common stock pursuant to the exercise of stock options during the three months ended September 30, 2018. The Company issued approximately 29,000 shares of common stock pursuant to the exercise of stock options during the nine months ended September 30, 2018.

Employee Stock Purchase Plan

In February 2013, the Company's board of directors adopted the 2013 Employee Stock Purchase Plan (ESPP), which was subsequently ratified by stockholders and became effective in April 2013. Initially, the ESPP authorized the issuance of 704,225 shares of common stock pursuant to purchase rights granted to the Company's employees or to employees of any of its designated affiliates. The number of shares of common stock reserved for issuance automatically increases on January 1 of each calendar year, from January 1, 2014 through January 1, 2023 by the lesser of (a) 1% of the total number of shares of common stock outstanding on December 31 of the preceding calendar year, (b) 422,535 shares, or (c) a number determined by the Company's board of directors that is less than (a) and (b). On January 1, 2018, the common stock reserved for issuance under the ESPP was automatically increased by an additional 0.4 million shares.

The Company has reserved a total of 2.6 million shares of common stock to be purchased under the ESPP, of which 2.1 million shares remained available for purchase as of September 30, 2018. The ESPP provides for an automatic reset feature to start participants on a new twenty-four month participation period in the event that the common stock market value on a purchase date is less than the common stock value on the first day of the twenty-four month offering period. Eligible employees may authorize an amount up to 15% of their salary to purchase common stock at the lower of a 15% discount to the beginning price of their offering period or a 15% discount to the ending price of each six-month purchase interval. The Company issued 77,000 and 164,000 shares of common stock pursuant to the ESPP during the three and nine months ended September 30, 2018, respectively. Compensation expense for shares purchased under the ESPP related to the purchase discount and the "look-back" option and were determined using a Black-Scholes option pricing model.

Restricted Stock Units

The Company has issued RSUs to certain employees which vest based on service criteria. When vested, the RSU represents the right to be issued the number of shares of the Company's common stock that is equal to the number of RSUs granted. The grant date fair value for RSUs is based upon the market price of the Company's common stock on the date of the grant. The fair value is then amortized to compensation expense over the requisite service period or vesting term. The Company issued no shares of common stock pursuant to the vesting of RSUs during the three months ended September 30, 2018. The Company issued 233,000 shares of common stock pursuant to the vesting of RSUs during the nine months ended September 30, 2018.

In January 2017, the Company also granted performance-based RSUs which, when vested, represent the right to be issued the number of shares of the Company's common stock that is equal to the number of RSUs granted. The grant date fair value for performance-based RSUs is based upon the market price of the Company's common stock on the date of the grant. For the portion of the performance-based RSUs of which the achievement of the performance condition is considered probable, the Company recognizes stock-based compensation expense on the related estimated fair value of such RSUs ratably for each vesting tranche from the service inception date to the end of the requisite service period. For the performance conditions that are not considered probable of achievement at the grant date or upon quarterly re-evaluation, prior to the event actually occurring, the Company begins recognizing the related stock-based compensation expense ratably when the event occurs or when the Company can determine that achievement of the performance condition is probable. In those cases, the Company recognizes the change in estimate at the time it determines the performance condition is probable of achievement (by recognizing stock-based compensation expense as cumulative catch-up adjustment as if the Company had estimated at the grant date that the performance condition would have been achieved) and recognize the remaining compensation cost through the end of the requisite service period. The Company issued no shares of common stock pursuant to the vesting of performance-based RSUs during the three and nine months ended September 30, 2018.

For awards with only service conditions and graded-vesting features, the Company recognizes compensation expense on a straight-line basis over the requisite service period. Total share-based compensation expense recognized related to stock options, the ESPP and RSUs was as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Research and development expense	\$ 1,370	\$ 1,853	\$ 4,226	\$ 5,468
General and administrative expense	1,811	2,365	6,382	7,010
Total share-based compensation expense	\$ 3,181	\$ 4,218	\$ 10,608	\$ 12,478

At-The-Market Equity Offering

On November 8, 2017, the Company entered into an at-the-market (ATM) sales agreement with Cowen and Company, LLC to sell up to \$75 million of the Company's common stock under a shelf registration statement filed in November 2017. In July 2018, the Company began selling shares of common stock through this ATM sales agreement. During the three and nine months ended September 30, 2018, the Company sold 2.7 million shares of common stock at a weighted average price per share of \$4.00 for net offering proceeds of \$10.5 million. As of November 2, 2018, the Company had sold an aggregate of 2.8 million shares of common stock at a weighted average price per share of \$4.00 for net offering proceeds of \$10.9 million.

Note 5. Income Taxes

The Company estimates an annual effective tax rate of 0% for the year ending December 31, 2018 as the Company incurred losses for the nine month period ended September 30, 2018 and is forecasting additional losses through the fourth quarter, resulting in an estimated net loss for both financial statement and tax purposes for the year ending December 31, 2018. Therefore, no federal or state income taxes are expected and none have been recorded at this time. Income taxes have been accounted for using the liability method in accordance with FASB ASC 740.

Due to the Company's history of losses since inception, there is not enough evidence at this time to support that the Company will generate future income of a sufficient amount and nature to utilize the benefits of its net deferred tax assets. Accordingly, the deferred tax assets have been reduced by a full valuation allowance, since the Company does not currently believe that realization of its deferred tax assets is more likely than not.

At September 30, 2018, the Company had no unrecognized tax benefits that would reduce the Company's effective tax rate if recognized.

At September 30, 2018, the Company's accounting for the 2017 Tax Cuts and Jobs Act is incomplete; however, it expects to complete the accounting by December 31, 2018. As discussed in our 2017 Annual Report on Form 10-K, the Company recorded provisional adjustments related to deferred taxes for stock compensation and the deferred rate change. The Company is continuing to evaluate the impact of the recently enacted tax law on its business and consolidated financial statements. For the third quarter of 2018, the Company has not made any measurement-period adjustments related to these provisional items. Updates to the Company's calculations may result in changes to the provisional adjustments recorded at December 31, 2017.

Note 6. Significant Agreements

The Regents of the University of California

In May 2002, the Company entered into a license agreement with The Regents of the University of California (UC) under which the Company obtained an exclusive, worldwide license to UC's patent rights in certain inventions (the UC Patent Rights) related to lipid-conjugated antiviral compounds and their use, including certain patents relating to brincidofovir. The license agreement was amended in September 2002 in order to expand the scope of the license and again in December 2010 in order to modify certain financial terms. The agreement was amended a third time in September 2011 to add additional patents related to certain metabolically stable lipid-conjugate compounds. In April 2018, a fifth amendment was executed to alter the rights and obligations of the parties in light of the Company's current business plans and to extend the term of the agreement to the later of the longest-lived Patent Rights (as defined in the agreement) or May 2028.

Under the license agreement, the Company is permitted to research, develop, manufacture and commercialize products utilizing the UC Patent Rights for all human and veterinary uses, and to sublicense such rights. UC retained the right, on behalf of itself and other non-profit institutions, to use the UC Patent Rights for educational and research purposes and to publish information about the UC Patent Rights.

In consideration for the rights granted under the license agreement, the Company has issued UC an aggregate of 64,788 shares of common stock. As additional consideration, the Company is required to pay certain cash milestone payments in connection with the development and commercialization of compounds that are covered by the UC Patent Rights, plus certain annual fees to maintain such patents until the Company commercializes a product utilizing UC Patent Rights. In connection with the development and commercialization of brincidofovir and CMX157, the Company could be required to pay UC up to an aggregate of \$3.4 million in milestone payments, assuming the achievement of all applicable milestone events under the license agreement. In addition, upon commercialization of any product utilizing the UC Patent Rights (which would include the commercialization of brincidofovir), the Company will be required to pay low single digit royalties on net sales of such product.

The license agreement requires that we diligently develop, manufacture and commercialize compounds that are covered by the UC Patent Rights, and we have agreed to meet certain development and commercialization milestones. UC may, at its option, either terminate the license agreement or change the license granted from an exclusive license to a non-exclusive license if we fail to meet such development and commercialization milestones. We are currently in compliance with these milestone requirements.

In the event the Company sublicenses a UC Patent Right (including UC Patent Rights relating to brincidofovir or CMX157) the Company is obligated to pay to UC a fee, which amount will vary depending upon the amount of any payments the Company receives and the clinical development stage of the compound being sublicensed, but which could be up to approximately 50% of the sublicense fee in certain circumstances. With respect to brincidofovir, the fee payable to UC will not exceed 5% of the sublicense fee. In addition, the Company will also be required to pay to UC a low single digit sublicense royalty on net sales of products that use the sublicensed UC Patent Rights, but in no event will the Company be required to pay more than 50% of the royalties it receives in connection with the relevant sublicense. Any such royalty payment will be reduced by other payments the Company is required to make to third parties until a minimum royalty has been reached.

Biomedical Advanced Research and Development Authority (BARDA)

In February 2011, the Company entered into a contract with BARDA for the advanced development of brincidofovir as a medical countermeasure in the event of a smallpox release. Under the contract, BARDA will reimburse the Company, plus pay a fixed fee, for the research and development of brincidofovir as a broad-spectrum therapeutic antiviral for the treatment of smallpox infections. The contract consists of an initial performance period, referred to as the base performance segment, plus up to four extension periods, referred to as option segments, each of which may be exercised at BARDA's sole discretion. The Company must complete the agreed upon milestones and deliverables in each discrete work segment before the next option segment is eligible to be exercised. Under the contract as currently in effect, the Company may receive up to \$75.8 million in expense reimbursement and \$5.3 million in fees.

The Company is currently performing under the second and third option segments of the contract during which the Company may receive up to a total of \$21.6 million and \$14.1 million in expense reimbursement and fees, respectively. The second and third option segments are scheduled to end on March 30, 2019. For the three months ended September 30, 2018 and 2017, the Company recognized revenue under this contract of \$0.4 million and \$0.9 million, respectively, and for the nine months ended September 30, 2018 and 2017, the Company recognized revenue under this contract of \$2.4 million and \$2.7 million, respectively.

ContraVir Pharmaceuticals

On December 17, 2014, the Company entered into a license agreement with ContraVir (NASDAQ:CTRV) for the development and commercialization of CMX157 for certain antiviral indications. Under the terms of the agreement, ContraVir has sole responsibility with respect to the control of the development and commercialization of CMX157.

In exchange for the license to CMX157 rights, the Company received ContraVir Series B Convertible Preferred Stock which the Company converted into shares of ContraVir common stock in 2016. As of September 30, 2018 and December 31, 2017, the fair value of the investment was recorded as a short-term investment of \$0.1 million and \$0.4 million, respectively.

In addition, the Company is eligible to receive up to approximately \$20 million in clinical, regulatory and initial commercial milestones in the United States and Europe, as well as royalties and additional milestones based on commercial sales in those territories. Either party may terminate the license agreement upon the occurrence of a material breach by the other party (subject to standard cure periods), or upon certain events involving the bankruptcy or insolvency of the other party. ContraVir may also terminate the license agreement without cause on a country-by-country basis upon sixty days' prior written notice.

University of Michigan

In 2006, the Company entered into a license agreement with The Regents of the University of Michigan (UM) under which the Company obtained an exclusive, worldwide license to UM's patent rights in certain inventions (UM Patent Rights) related to certain compounds originally synthesized at UM. Under the license agreement, the Company is permitted to research, develop, manufacture and commercialize products utilizing the UM Patent Rights, and to sublicense such rights subject to certain sublicensing fees and royalty payments. The agreement was amended in 2016.

In connection with the Company's commercialization or sublicensing of certain products covered by the license agreement, including CMX521, the Company could be required to pay royalties on net sales of such products ranging from 0.25% to 2%. Beginning in 2024, the Company is also subject to certain minimum annual royalty payments.

The UM license agreement requires that the Company uses commercially reasonable efforts to develop and make commercially available licensed products as soon as practicable. Specifically, the Company has agreed to make the first commercial sale of a licensed product by June of 2026. UM may terminate the license agreement if the Company materially breaches the license agreement. The Company is currently in compliance with its milestone requirements.

Note 7. Subsequent Events

The Company has evaluated subsequent events through the issuance date of these financial statements to ensure that this filing includes appropriate disclosure of events both recognized in the financial statements as of September 30, 2018, and events which occurred subsequently but were not recognized in the financial statements.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited consolidated financial statements and related notes included in this Quarterly Report on Form 10-Q and the audited financial statements and notes thereto as of and for the year ended December 31, 2017 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, 2017, filed with the Securities and Exchange Commission (SEC) on March 1, 2018. Past operating results are not necessarily indicative of results that may occur in future periods.

Forward-Looking Statements

The information in this discussion contains forward-looking statements and information within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are subject to the "safe harbor" created by those sections. These forward-looking statements include, but are not limited to, statements concerning our strategy, future operations, future financial position, future revenues, projected costs, prospects and plans and objectives of management. The words "anticipates," "believes," "estimates," "expects," "intends," "may," "plans," "projects," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements that we make. These forward-looking statements involve risks and uncertainties that could cause our actual results to differ materially from those in the forward-looking statements, including, without limitation, the risks set forth in Part II, Item 1A, "Risk Factors" in this Quarterly Report on Form 10-Q and in our other filings with the SEC. The forward-looking statements are applicable only as of the date on which they are made, and we do not assume any obligation to update any forward-looking statements.

OVERVIEW

Chimerix, Inc. is a biopharmaceutical company committed to discovering, developing and commercializing medicines that improve outcomes for immunocompromised patients. We were founded in 2000 based on the promise of our proprietary lipid conjugate technology to unlock the potential of some of the most broad-spectrum antivirals by enhancing their antiviral activity and safety profiles in convenient dosing regimens. Our lead compound, brincidofovir (BCV), is in development as an oral and intravenous (IV) formulation for the prevention and treatment of DNA viruses, including smallpox, adenoviruses, and the human herpesviruses. We are developing CMX521, the first clinical-stage direct-acting antiviral specifically for the treatment and prevention of norovirus. In addition, we have an active discovery program focusing on viral targets for which limited or no therapies are currently available.

Recent Developments

AdAPT Study of Oral Brincidofovir

The AdAPT study (Adenovirus after Allogeneic Pediatric Transplantation) is open for enrollment at sites in the United States, the United Kingdom, and in continental Europe. All targeted countries and clinical sites are anticipated to be open for enrollment by the end of 2018. This study is targeting enrollment of 141 pediatric and young adult allogeneic hematopoietic cell transplant (HCT) recipients with confirmed adenovirus (AdV) infection. In the study, subjects are randomized 2:1 to receive short-course oral BCV or local standard-of-care (SOC) treatment.

The primary endpoint of the study is a comparison of AdV viral burden, as measured by the time-Averaged Area Under the Curve for AdV viremia over 16 weeks (AdV AAUC₀₋₁₆) in subjects treated with short-course oral BCV versus those who receive local SOC. The study is 90% powered to show the superiority of reduced AdV viral burden (i.e., lower AdV AAUC₀₋₁₆) in BCV-treated patients compared to local SOC. The study will also evaluate the correlation of AdV AAUC₀₋₁₆ with clinical outcomes, including survival. A strong correlation between AdV viral burden and mortality was described in data collected from the AdVance study. In the AdVance study, patients with the highest AdV AAUC₀₋₁₆ had the highest observed mortality. In addition, across the pediatric patients with AdV viremia, each 1.0 log₁₀ increase in AdV AAUC₀₋₁₆ was associated with a two-fold increase in mortality. We anticipate that enrollment in the AdAPT study will be completed in 2019 and obtaining results from the 16-week primary endpoint in 2020; however, this forecast will likely be updated once we have several months of enrollment rate data from a majority of planned clinical centers.

On October 19, 2018, the European Medicines Agency (EMA) issued a positive opinion to the Company for our adenovirus Pediatric Investigation Plan (PIP). An approved PIP, or a waiver thereof, is required by the EMA prior to marketing authorization application (MAA) submission.

Oral Treatment for Smallpox

We are collaborating with the Biomedical Advanced Research and Development Authority (BARDA) for the development of BCV as a potential medical countermeasure for smallpox. Efficacy is to be demonstrated via two animal models under the FDA's Animal Rule. We reached agreement with the U.S. Food and Drug Administration (FDA) and BARDA on the design and conduct of an adjunct pivotal rabbitpox study and it was recently initiated. We are working with the FDA and BARDA on the design and conduct of a pivotal mouse study and we expect to initiate that study early next year. Following successful completion of the animal efficacy studies, we plan to meet with the FDA to discuss any additional required data for a regulatory decision. Data from both animal efficacy studies are expected in 2019. We anticipate submitting marketing applications in 2020.

On October 19, 2018, the EMA issued a positive opinion to the Company for our smallpox PIP. An approved PIP, or a waiver thereof, is required by the EMA prior to MAA submission.

IV Brincidofovir Progresses to Phase 2 Studies

We are continuing to open sites in the United States and Europe for enrollment in our IV BCV Phase 2 studies in adult allogeneic HCT recipients with AdV. We anticipate interim data to be available during 2019. These studies may also provide data on other viral infections such as cytomegalovirus (CMV) and/or BK virus (BKV) in patients with multi-viral infections. The studies will evaluate pharmacokinetics (PK) and tolerability of multiple doses of IV BCV in adult allogeneic HCT recipients. We will also evaluate the relationship between BCV dose and observed change-from-baseline in AdV. Data from these studies are expected to inform the design of future Phase 2/3 studies.

Following availability of data from adult patients in the studies described above, we will evaluate the potential for IV BCV to treat other DNA viral infections, such as BKV, CMV, or other herpesviruses such as HHV-6. In addition, the higher drug concentrations in the central nervous system (CNS) achieved with IV BCV in animal studies could support the study of IV BCV in viral CNS infections such as herpes encephalitis and JC virus infection.

In October 2018, we presented data from our Phase 1 study evaluating the safety and PK of multiple ascending doses (MAD) of IV BCV in healthy subjects. The Phase 1 study evaluated the safety and PK of IV BCV in 27 healthy individuals who were randomized 3:1 to receive IV BCV or placebo in sequential MAD cohorts. Individuals receiving IV BCV were given a 10 mg dose in a two-hour infusion twice a week for two weeks or a 20 mg dose in either a one- or two-hour infusion once a week for four weeks. Twice weekly doses of IV BCV at 10 mg provided similar blood levels of the drug as the oral BCV 100 mg dose previously studied in late-stage clinical trials, with no reported diarrhea or other gastrointestinal adverse events.

CMX521 for Norovirus

CMX521, a nucleoside analog identified from our proprietary chemical library, is the first clinical-stage direct-acting antiviral specifically for the treatment and/or prevention of norovirus. One recent study estimates that norovirus outbreaks account for approximately \$60 billion in lost productivity/economic impact and no antivirals or vaccines are currently available. Chronic norovirus infection is increasingly being diagnosed in immunocompromised patients. Approximately 15-20 percent of HCT and solid organ transplant (SOT) recipients are diagnosed with norovirus within the first 1-2 years after transplant, a diagnosis that has been associated with chronic diarrhea, electrolyte disturbances, and graft rejection.

In September 2018, we presented data on CMX521 at the European Society for Clinical Virology in Athens, Greece. The data presented included:

- CMX521 plasma exposures increased in a less-than-proportional manner with escalating single oral dose administration;
- Single oral doses of CMX521 up to 2400 mg were generally well-tolerated; and
- No safety concerns were identified.

Clinical testing of CMX521 is ongoing in conjunction with in vitro studies in cultured human intestinal cells and recently described animal models of norovirus to assess antiviral efficacy.

FINANCIAL OVERVIEW

Revenues

To date, we have not generated any revenue from product sales. All of our revenue to date has been derived from a government grant and contract and the receipt of up-front proceeds under our collaboration and license agreements.

In February 2011, we entered into a contract with BARDA, a U.S. governmental agency that supports the advanced research and development, manufacturing, acquisition, and stockpiling of medical countermeasures. The contract originally consisted of an initial performance period, referred to as the base performance segment, which ended on May 31, 2013, plus up to four extension periods, referred to as option segments. Subsequent option segments to the contract are not subject to automatic renewal and are not exercisable at our discretion. The contract is a cost plus fixed fee development contract. Under the contract as currently in effect, we may cumulatively receive up to \$75.8 million in expense reimbursement and \$5.3 million in fees if all remaining option segments are exercised. We are currently performing under the second and third option segments of the contract during which we may receive up to a total of \$21.6 million and \$14.1 million in expense reimbursement and fees, respectively. The second and third option segments are scheduled to end on March 30, 2019. As of September 30, 2018, we had recognized revenue in aggregate of \$58.5 million with respect to the base performance segment and the first three extension periods. Under the BARDA contract, we recognized revenue of \$0.4 million and \$0.9 million during the three months ended September 30, 2018 and 2017, respectively, and we recognized revenue of \$2.4 million and \$2.7 million during the nine months ended September 30, 2018 and 2017, respectively.

In the future, we may generate revenue from a combination of product sales, license fees, milestone payments and royalties from the sales of products developed under licenses of our intellectual property. We expect that any revenue we generate will fluctuate from quarter to quarter as a result of the timing and amount of license fees, milestone and other payments, and the amount and timing of payments that we receive upon the sale of our products, to the extent any are successfully commercialized. If we fail to complete the development of our product candidates in a timely manner or obtain regulatory approval for them, our ability to generate future revenue, and our results of operations and financial position, would be materially adversely affected.

Research and Development Expenses

Since our inception, we have focused our resources on our research and development activities, including conducting preclinical studies and clinical trials, manufacturing development efforts and activities related to regulatory filings for our product candidates. We recognize research and development expenses as they are incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors. We cannot determine with certainty the duration and completion costs of the current or future clinical studies of our product candidates. Our research and development expenses consist primarily of:

- fees paid to consultants and contract research organizations (CROs), including in connection with our preclinical and clinical trials, and other related clinical trial fees, such as for investigator grants, patient screening, laboratory work, clinical trial database management, clinical trial material management and statistical compilation and analysis;
- salaries and related overhead expenses, which include stock option, restricted stock units and employee stock purchase program compensation and benefits, for personnel in research and development functions;
- payments to third-party manufacturers, which produce, test and package our drug substance and drug product (including continued testing of process validation and stability);
- costs related to legal and compliance with regulatory requirements; and
- license fees for and milestone payments related to licensed products and technologies.

From our inception through September 30, 2018, we have incurred approximately \$444.8 million in research and development expenses, which predominately relates to our development of BCV. These costs were largely related to the conduct of our clinical trials of BCV.

Our direct research and development expenses consist primarily of external costs, such as fees paid to investigators, consultants, central laboratories and CROs, in connection with our clinical trials, preclinical development, and payments to third-party manufacturers of drug substance and drug product. We typically use our employee and infrastructure resources across multiple research and development programs.

The table below summarizes our research and development expenses for the periods indicated (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Direct research and development expenses	\$ 6,290	\$ 5,733	\$ 21,718	\$ 17,745
Research and development personnel costs - excluding stock-based compensation	3,197	3,552	9,971	10,265
Research and development personnel costs - stock-based compensation	1,370	1,853	4,226	5,468
Indirect research and development expenses	1,035	1,019	4,048	3,057
Total research and development expenses	\$ 11,892	\$ 12,157	\$ 39,963	\$ 36,535

The successful development of our clinical and preclinical product candidates is highly uncertain. At this time, we cannot reasonably estimate the nature, timing or costs of the efforts that will be necessary to complete the remainder of the development of any of our clinical or preclinical product candidates or the period, if any, in which material net cash inflows from these product candidates may commence. This is due to the numerous risks and uncertainties associated with the development of our product candidates, as detailed in Part II, Item IA, "Risk Factors" in this Quarterly Report on Form 10-Q and in our other filings with the SEC.

Oral Brincidofovir

The majority of our research and development resources have been focused on our Phase 3 trial of BCV for prevention of CMV in HCT recipients (SUPPRESS), our trial of BCV as a treatment for AdV (AdVise), our recently initiated AdAPT study in pediatric and young adult HCT recipients and our other clinical and preclinical studies and other work needed to provide sufficient data supporting the safety, tolerability and efficacy of BCV for approval in the United States and equivalent health authority approval outside the United States.

In addition, pursuant to our contract with BARDA, we are continuing development of BCV for the treatment of smallpox. During the base performance segment of the contract, we incurred significant expense in connection with the development of orthopox virus animal models, the demonstration of efficacy and PK of BCV in the animal models, the conduct of an open label clinical safety study for subjects with DNA viral infections, and the manufacture and process validation of bulk drug substance and BCV 100 mg tablets. During the first option segment of the contract, we performed additional confirmatory PK studies of BCV in animals. In September 2014, we initiated performance under the second option segment of the contract with BARDA with a scope of work comprising two pivotal animal efficacy studies of BCV. In September 2015, we initiated performance under the third option segment which focuses on BCV chemistry, manufacturing and controls at large scale and a second adjunct animal study.

IV Brincidofovir

We have also incurred research and development costs associated with the development of IV BCV. We have conducted preclinical testing and Phase 1 clinical studies and are conducting Phase 2 clinical studies, and continue to progress manufacturing process development.

CMX521 for Norovirus

In addition to the costs associated with BCV development, we have incurred research and development costs related to other programs, including CMX521 for norovirus. The majority of this work has been focused on preclinical development, early-stage chemistry, manufacturing, and conduct of our Phase 1 clinical trial. Process development of CMX521 manufacturing is underway as well.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and related costs for employees in executive, finance, commercial, information technology, legal, human resources and administrative support functions, including share-based compensation expenses and benefits. Other significant general and administrative expenses include accounting and legal services, cost of various consultants, director and officer liability insurance, occupancy costs and information systems. Pre-launch activities for BCV continue to be a significant portion of general and administrative expenses.

Unrealized Loss on Equity Investment

Unrealized loss on equity investment consists of the decrease in fair value of our investment in ContraVir Pharmaceuticals (ContraVir) common stock for the three and nine months ended September 30, 2018.

Interest Income

Interest income consists primarily of interest earned on our cash, cash equivalents, short-term investments and long-term investments.

Share-based Compensation

The Financial Accounting Standards Board authoritative guidance requires that share-based payment transactions with employees be recognized in the financial statements based on their fair value and recognized as compensation expense over the vesting period. The total consolidated share-based compensation expense of \$3.2 million and \$4.2 million was recognized in the three months ended September 30, 2018 and 2017, respectively, and \$10.6 million and \$12.5 million was recognized in the nine months ended September 30, 2018 and 2017, respectively. The share-based compensation expense recognized included expense for stock options, RSUs and our employee stock purchase plan purchase rights.

We estimate the fair value of our share-based awards to employees and directors using the Black-Scholes pricing model. This estimate is affected by our stock price as well as assumptions including the expected volatility, expected term, risk-free interest rate, expected dividend yield, expected rate of forfeiture and the fair value of the underlying common stock on the date of grant.

For performance-based RSUs, we begin to recognize the expense when it is deemed probable that the performance-based goal will be achieved. We evaluate the probability of achieving performance-based goals on a quarterly basis.

CRITICAL ACCOUNTING POLICIES AND SIGNIFICANT JUDGMENTS AND ESTIMATES

Our management's discussion and analysis of financial condition and results of operations is based on our unaudited consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an ongoing basis, we evaluate these estimates and judgments. We base our estimates on historical experience and on various assumptions that we believe to be reasonable under the circumstances. These estimates and assumptions form the basis for making judgments about the carrying values of assets and liabilities and the recording of revenues and expenses that are not readily apparent from other sources. Actual results and experiences may differ materially from these estimates. In addition, our reported financial condition and results of operations could vary if new accounting standards are enacted that are applicable to our business.

We discussed accounting policies and assumptions that involve a higher degree of judgment and complexity in Note 1 to our consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017 filed with the SEC on March 1, 2018. There have been no material changes during the nine months ended September 30, 2018 to our critical accounting policies, significant judgments and estimates disclosed in our Annual Report on Form 10-K for the year ended December 31, 2017.

RESULTS OF OPERATIONS

Comparison of the Three Months Ended September 30, 2018 and September 30, 2017

The following table summarizes our results of operations for the three months ended September 30, 2018 and September 30, 2017, together with the changes in those items (in thousands, except percentages):

	Three Months Ended September 30,		Dollar Change	% Change
	2018	2017	Increase/(Decrease)	
Contract revenue	\$ 369	\$ 897	\$ (528)	(58.9)%
Operating expenses:				
Research and development	11,892	12,157	(265)	(2.2)%
General and administrative	5,187	6,650	(1,463)	(22.0)%
Total operating expenses	17,079	18,807	(1,728)	(9.2)%
Loss from operations	(16,710)	(17,910)	1,200	(6.7)%
Other (expense) income:				
Unrealized loss on equity investment	(99)	—	(99)	*
Interest income	730	598	132	22.1 %
Net loss	\$ (16,079)	\$ (17,312)	\$ 1,233	(7.1)%

* Not meaningful or not calculable

Contract Revenue

For the three months ended September 30, 2018, total contract revenue decreased to \$0.4 million compared to \$0.9 million for the three months ended September 30, 2017. This change is related to a decrease in reimbursable expenses related to our contract with BARDA.

Research and Development Expenses

For the three months ended September 30, 2018, our research and development expenses decreased to \$11.9 million compared to \$12.2 million for the three months ended September 30, 2017. The decrease of \$0.3 million, or 2.2%, is primarily related to the following:

- an increase of \$0.4 million in preclinical and chemistry development on the IV formulation of BCV; and
- an increase of \$0.2 million related to the oral BCV program, which is mainly comprised of an increase of \$0.8 million related to clinical trial studies and a decrease of \$0.6 million related to drug manufacturing costs; offset by
- a decrease of \$0.6 million in compensation expense; and
- a decrease of \$0.1 million in expenses related to the smallpox program.

General and Administrative Expenses

For the three months ended September 30, 2018, our general and administrative expenses decreased to \$5.2 million compared to \$6.7 million for the three months ended September 30, 2017. The decrease of \$1.5 million, or 22.0%, is primarily related to the following:

- a decrease of \$1.0 million in compensation expense;
- a decrease of \$0.3 million in legal and professional fees; and
- a decrease of \$0.1 million in commercial and other operating expenses.

Unrealized Loss on Equity Investment

For the three months ended September 30, 2018, unrealized loss on equity investment was \$0.1 million related to the decline in fair value of our investment in ContraVir common stock. Unrealized loss on equity investments for the three months ended September 30, 2017 was recorded in other comprehensive income.

Interest Income

For the three months ended September 30, 2018, our interest income increased to \$0.7 million compared to the \$0.6 million for the three months ended September 30, 2017. This increase is attributable to increased interest earned on our cash and investments.

Comparison of the Nine Months Ended September 30, 2018 and September 30, 2017

The following table summarizes our results of operations for the nine months ended September 30, 2018 and September 30, 2017, together with the changes in those items (in thousands except percentages):

	Nine Months Ended September 30,		Dollar Change	% Change
	2018	2017	Increase/(Decrease)	
Contract revenue	\$ 2,352	\$ 2,650	\$ (298)	(11.2)%
Operating expenses:				
Research and development	39,963	36,535	3,428	9.4 %
General and administrative	18,575	19,530	(955)	(4.9)%
Total operating expenses	58,538	56,065	2,473	4.4 %
Loss from operations	(56,186)	(53,415)	(2,771)	5.2 %
Other (expense) income:				
Unrealized loss on equity investment	(311)	—	(311)	*
Interest income	1,979	1,669	310	18.6 %
Net loss	\$ (54,518)	\$ (51,746)	\$ (2,772)	5.4 %

* Not meaningful or not calculable

Contract Revenue

For the nine months ended September 30, 2018, total contract revenue decreased to \$2.4 million compared to \$2.7 million for the nine months ended September 30, 2017. The decrease of \$0.3 million, or 11.2%, is related to a decrease in reimbursable expenses related to our contract with BARDA.

Research and Development Expenses

For the nine months ended September 30, 2018, our research and development expenses increased to \$40.0 million compared to \$36.5 million for the nine months ended September 30, 2017. The increase of \$3.4 million, or 9.4%, is primarily related to the following:

- an increase in oral BCV expenses of \$3.0 million, which is comprised primarily of a \$2.8 million increase in clinical trial expenses and a \$0.2 million increase in drug manufacturing costs;
- an increase of \$1.3 million in legal and consulting fees;
- an increase of \$0.4 million in supporting clinical development expenses; and
- an increase of \$0.3 million in expenses related to the smallpox program; offset by
- a decrease of \$1.4 million in compensation expense; and
- a decrease of \$0.4 million in expenses related to our development of CMX521 and other early stage compounds.

General and Administrative Expenses

For the nine months ended September 30, 2018, our general and administrative expenses decreased to \$18.6 million compared to \$19.5 million for the nine months ended September 30, 2017. The decrease of \$1.0 million, or 4.9%, is primarily related to the following:

- an increase of \$0.8 million in expenses related to commercial readiness efforts related to oral BCV, IV BCV, and CMX521; offset by
- a decrease of \$1.4 million related to compensation expense; and
- a decrease of \$0.3 million related to legal, consulting fees and general operating expenses.

Interest Income

For the nine months ended September 30, 2018, our interest income increased to \$2.0 million compared to \$1.7 million for the nine months ended September 30, 2017. This increase is attributable to increased interest earned on our cash and investments.

LIQUIDITY AND CAPITAL RESOURCES

As of September 30, 2018, we had capital available to fund operations of approximately \$193.8 million. Cash in excess of immediate requirements is invested in accordance with our investment policy, primarily with a view to liquidity and capital preservation. We have incurred losses since our inception in 2000 and as of September 30, 2018, we had an accumulated deficit of \$541.3 million. We anticipate that we will continue to incur losses for at least the next several years.

On November 8, 2017, we entered into an at-the-market (ATM) sales agreement with Cowen and Company, LLC to sell up to \$75 million of our common stock under a shelf registration statement filed in November 2017. In July 2018, we began selling shares of common stock through this ATM sales agreement. As of November 2, 2018, we had sold an aggregate of 2.8 million shares of common stock at a weighted average price per share of \$4.00 for net offering proceeds of \$10.9 million.

We believe that our existing cash, cash equivalents, short-term investments, and long-term investments will enable us to fund our current operating expenses and capital requirements for at least the next 12 months; however, we anticipate that we will need additional capital in the future to fund our operations, which we may obtain through one or more of equity offerings (including sales under the ATM sales agreement), debt financings, government or other third-party funding, strategic alliances and licensing or collaboration arrangements.

We cannot assure you that adequate funding will be available on terms acceptable to us, if at all. Any additional equity financings will be dilutive to our stockholders and any additional debt may involve operating covenants that may restrict our business. If adequate funds are not available through these means, we may be required to curtail significantly one or more of our research or development programs, our pre-launch expenses, and any launch and other commercialization expenses for any of our products that may receive marketing approval. We cannot assure you that we will successfully develop or commercialize our products under development or that our products, if successfully developed, will generate revenues sufficient to enable us to earn a profit.

Cash Flows

The following table sets forth the significant sources and uses of cash (in thousands):

	Nine Months Ended September 30,	
	2018	2017
Cash sources and uses:		
Net cash used in operating activities	\$ (45,425)	\$ (38,002)
Net cash provided by investing activities	39,050	3,879
Net cash provided by financing activities	10,818	833
Net increase (decrease) in cash and cash equivalents	<u>\$ 4,443</u>	<u>\$ (33,290)</u>

Operating Activities

Net cash used in operating activities of \$45.4 million for the nine months ended September 30, 2018 was primarily the result of our \$54.5 million net loss and the change in operating assets and liabilities, partially offset by the add-back of non-cash expenses of \$10.6 million for share-based compensation and \$0.7 million of depreciation of property and equipment. The change in operating assets and liabilities includes a decrease of \$3.6 million in accounts payable and accrued liabilities, partially offset by a decrease in accounts receivable of \$1.4 million related to work on the BARDA contract. Net cash used in operating activities of \$38.0 million for the nine months ended September 30, 2017 was primarily the result of our \$51.7 million net loss, partially offset by the change in operating assets and liabilities and the add-back of non-cash expenses of \$12.5 million for share-based compensation and \$0.8 million of depreciation of property and equipment. The change in operating assets and liabilities includes a decrease in accounts receivable of \$1.3 million related to work on the BARDA contract and a decrease in prepaid expenses and other assets of \$0.3 million, partially offset by a decrease of \$0.9 million in accounts payable and accrued liabilities.

Investing Activities

Net cash provided by investing activities of \$39.1 million for the nine months ended September 30, 2018 was primarily the result of the sales and maturities of \$104.5 million in short-term investments partially offset by the purchase of \$59.3 million in short-term investments and \$6.0 million in long-term investments. Net cash provided by investing activities of \$3.9 million for the nine months ended September 30, 2017 was primarily the result of the purchase of \$144.5 million in long-term investments partially offset by the sales and maturities of \$148.4 million in short-term investments.

Financing Activities

Net cash provided by financing activities of \$10.8 million for the nine months ended September 30, 2018 was the result of \$10.5 million in proceeds from issuance of common stock, \$0.7 million in proceeds from the exercise of stock options and stock purchases through our ESPP offset by \$0.4 million of payments for deferred offering costs. Net cash provided by financing activities of \$0.8 million for the nine months ended September 30, 2017 was the result of proceeds from the exercise of stock options and stock purchases through our ESPP.

CONTRACTUAL OBLIGATIONS AND COMMITMENTS

There have been no material changes to our contractual obligations and commitments outside the ordinary course of business from those disclosed under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations-Contractual Obligations and Commitments” as contained in our Annual Report on Form 10-K for the year ended December 31, 2017 filed by us with the SEC on March 1, 2018.

Off-Balance Sheet Arrangements

During the periods presented, we did not have, nor do we currently have, any off-balance sheet arrangements as defined under SEC rules.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of our portfolio. Accordingly, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates on our investment portfolio.

We do not believe that our cash, cash equivalents and available-for-sale investments have significant risk of default or illiquidity. While we believe our cash and cash equivalents and certificates of deposit do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. In addition, we maintain certain amounts of cash and cash equivalents at one or more financial institutions that are in excess of federally insured limits.

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We do not believe that inflation has had a material effect on our results of operations for the three and nine months ended September 30, 2018 or September 30, 2017.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our principal executive officer and principal financial officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended, or Exchange Act) as of September 30, 2018, have concluded that, based on such evaluation, our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC, and is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

We routinely review our internal control over financial reporting and from time to time make changes intended to enhance the effectiveness of our internal control over financial reporting. We will continue to evaluate the effectiveness of our disclosure controls and procedures and internal control over financial reporting on an ongoing basis and will take action as appropriate. There have been no changes to our internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, during the third quarter of 2018 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

None.

ITEM 1A. RISK FACTORS

An investment in shares of our common stock involves a high degree of risk. You should carefully consider the following risk factors, as well as the other information contained elsewhere 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 risk factors described when evaluating our business. We have marked with an asterisk () those risk factors that reflect changes from the risk factors included in our Annual Report on Form 10-K for the year ended December 31, 2017 filed with the Securities and Exchange Commission on March 1, 2018.*

Risks Related To Our Financial Condition and Need For Additional Capital

We have incurred significant losses since our inception. We anticipate that we will continue to incur significant losses for the foreseeable future, and we may never achieve or maintain profitability.*

We are a biopharmaceutical company focused primarily on developing our lead product candidate, brincidofovir. We have incurred significant net losses in each year since our inception, including net losses of \$54.5 million and \$51.7 million for the nine months ended September 30, 2018 and 2017, respectively. As of September 30, 2018, we had an accumulated deficit of approximately \$541.3 million.

To date, we have financed our operations primarily through the sale of equity securities and, to a lesser extent, through government funding, licensing fees and debt. We have devoted most of our financial resources to research and development, including our preclinical development activities and clinical trials. We have not completed development of any product candidates. We expect to continue to incur losses and negative cash flows for the foreseeable future. The size of our losses will depend, in part, on the rate of future expenditures and our ability to generate revenues. In particular, we expect to incur substantial and increased expenses as we seek to:

- continue the development of our lead product candidate, brincidofovir, for the treatment of AdV infection;
- advance the development of an IV formulation of brincidofovir;
- continue the development of brincidofovir for the prevention or treatment of CMV, AdV, BK virus, and other viral indications in HCT recipients, solid organ transplant recipients and other patient populations;
- continue the development of brincidofovir for the treatment of smallpox as a medical countermeasure;
- obtain regulatory approvals for brincidofovir;
- scale-up manufacturing capabilities to commercialize brincidofovir for any indications for which we receive regulatory approval;
- advance the development of CMX521 for norovirus;
- expand our research and development activities and advance our clinical programs;
- maintain, expand and protect our intellectual property portfolio;
- continue our research and development efforts and seek to discover additional product candidates; and
- add operational, financial and management information systems and personnel, including personnel to support our product development and commercialization efforts and operations as a public company.

To become and remain profitable, we must succeed in developing and eventually commercializing products with significant market potential. This will require us to be successful in a range of challenging activities, including discovering product candidates, completing preclinical testing and clinical trials of our product candidates, obtaining regulatory approval for these product candidates, and manufacturing, marketing and selling those products for which we may obtain regulatory approval. We are only in the preliminary stages of some of these activities.

To date, we have not obtained regulatory approval for any of our product candidates, and none of our product candidates have been commercialized. We may never succeed in developing or commercializing any of our product candidates. If our product candidates are not successfully developed or commercialized, or if revenues from any products that do receive regulatory approvals are insufficient, we will not achieve profitability and our business may fail. Even if we successfully obtain regulatory approval to

market our product candidates in the United States, our revenues are also dependent upon the size of markets outside of the United States, as well as our ability to obtain market approval and achieve commercial success outside of the United States.

Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, diversify our product offerings or continue our operations. A decline in the value of our company could cause you to lose all or part of your investment.

Our ability to generate future revenues from product sales is uncertain and depends upon our ability to successfully develop, obtain regulatory approval for, and commercialize our product candidates.*

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

- obtaining favorable results for and advancing the development of brincidofovir and our other product candidates, including successfully completing clinical development of IV and oral formulations of brincidofovir;
- obtaining United States and foreign regulatory approval(s) for brincidofovir;
- launching and commercializing brincidofovir, including establishing a sales force and/or collaborating with third party providers of sales organizations;
- achieving broad market acceptance of brincidofovir in the medical community and with third-party payers;
- delivering a competitive value proposition compared to established competition and/or competitors who will enter the market before or after any of our product candidates, including brincidofovir; and
- generating, licensing or otherwise acquiring a pipeline of product candidates which progress to clinical development, regulatory approval, and commercialization.

Conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data required to obtain regulatory approval and achieve product sales. Our anticipated development costs would likely increase if we do not obtain favorable results or if development of our product candidates is delayed. In particular, we would likely incur higher costs than we currently anticipate if development of our product candidates is delayed because we are required by the FDA or foreign regulatory authorities to perform studies or trials in addition to those that we currently anticipate, or we decide to conduct additional studies or trials for strategic reasons. For example, in December 2015 we announced that in the SUPPRESS trial brincidofovir did not prevent clinically significant CMV infection through Week 24 after HCT to a greater extent than occurred on placebo, the primary endpoint of the trial. Since that time, we have revised our overall development plan for brincidofovir. We have designed and are conducting multiple trials with the goal of attaining FDA and/or foreign regulatory approval of brincidofovir for commercial indications.

Furthermore, our development of BCV as a potential countermeasure for smallpox continues in collaboration with BARDA. On August 4, 2017, we received correspondence from the FDA that indicated that we would need to conduct a second rabbitpox efficacy study of brincidofovir. We reached agreement with the FDA and BARDA on the design and conduct of this adjunct rabbitpox study and it was recently initiated. We are working with the FDA and BARDA on the design and conduct of a study in our second animal model, the ectromelia virus in the mouse model.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to predict with certainty the timing or amount of any increase in our anticipated development costs that will result should any additional trials be necessary.

In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for a number of years, if at all. Even if one or more of our product candidates is approved for commercial sale, we anticipate incurring significant costs in connection with commercialization. As a result, we cannot assure you that we will be able to generate revenues from sales of any approved product candidates, or that we will achieve or maintain profitability even if we do generate sales.

If we fail to obtain additional financing, we could be forced to delay, reduce or eliminate our product development programs, seek corporate partners for the development of our product development programs or relinquish or license on unfavorable terms, our rights to technologies or product candidates.*

Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is a time-consuming, expensive and uncertain process that takes years to complete. We believe that our existing capital available to fund operations will enable us to fund our current operating expenses and capital requirements for at least the next twelve months. Having finalized our 2018 plans for both oral and IV brincidofovir, as well as for CMX521 for norovirus, we currently expect research and development expenses to increase for the full year 2018 as compared to the full year 2017. In addition, we presently continue to provide brincidofovir for the treatment of AdV infection through our expanded access protocol (Study 351) in the US and through the Named Patient Program in the EU. Changing circumstances beyond our control may cause us to consume capital more rapidly than we currently anticipate. For example, our clinical trials may encounter technical, enrollment or other difficulties that could increase our development costs more than we expected, or because the FDA or foreign regulatory authorities requires us to perform studies or trials in addition to those that we currently anticipate. We may need to raise additional funds if we choose to initiate clinical trials for our product candidates other than brincidofovir. In any event, we will require additional capital to commercialize our lead product candidate, brincidofovir, which we may obtain through one or more of equity offerings (including sales under our at-the-market sales agreement with Cowen and Company, LLC), debt financings, government or other third-party funding, strategic alliances and licensing or collaboration arrangements.

Securing additional financing may divert our management from our day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates, including brincidofovir. 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 our product candidates, including brincidofovir;
- seek corporate partners for brincidofovir or any of our other product candidates 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 product candidates that we otherwise would seek to develop or commercialize ourselves.

If 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 and on our ability to develop our product candidates.

Risks Related To Clinical Development and Regulatory Approval

We depend on the success of our lead product candidate, brincidofovir, which is still under clinical development, and may not obtain regulatory approval or be successfully commercialized.*

We have not marketed, distributed or sold any products. The success of our business depends upon our ability to develop and commercialize our lead product candidate, brincidofovir. In December 2015, we announced that in the SUPPRESS trial, brincidofovir did not prevent clinically significant CMV infection through Week 24 after transplant to a greater extent than occurred on placebo, the primary endpoint of the trial. In addition, overall mortality for brincidofovir and for placebo were not statistically different, but numerically higher for the patients who were randomized to receive brincidofovir.

Our AdVise study of brincidofovir for the treatment of AdV infection in allogeneic HCT recipients and other immunocompromised individuals is complete and did not demonstrate a survival benefit when results were compared to data from Study 305, our historical matched control study.

The AdAPT study is currently enrolling pediatric and young adult allogeneic HCT recipients with AdV infection to compare the AdV viral burden (AdV AAUC₀₋₁₆) in subjects randomized to short-course oral brincidofovir to those who are treated with the local standard-of-care.

On August 4, 2017, we received correspondence from the FDA that indicated that we would need to conduct a second rabbitpox efficacy study of brincidofovir. We reached agreement with the FDA and BARDA on the design and conduct of this adjunct rabbitpox study and it was recently initiated. Through our continuing development contract with BARDA, we have completed confirmatory model characterization studies prior to conducting the pivotal efficacy study in the mouse model (ectromelia virus).

We believe that efficacy data from this model could serve as the second animal model to support the approval of brincidofovir for the treatment of smallpox.

There is no guarantee that our current or future clinical trials, including any Phase 3 trials, will be approved by regulators, and no guarantee that they will be completed or, if completed, will be successful, or if successful, will result in an approval for the sale of any of our product candidates. The success of brincidofovir will depend on several factors, including the following:

- successful conduct of required trial(s) of oral brincidofovir for the treatment of adenovirus;
- successful conduct of a second efficacy study of oral brincidofovir in an animal model of smallpox infection, and acceptance of data from these animal model studies by the FDA and foreign regulatory bodies;
- development of an IV formulation and/or alternate drug formulations;
- receipt of marketing approvals from the FDA and corresponding regulatory authorities outside the United States;
- establishing commercial manufacturing capabilities;
- launching commercial sales of the product, whether alone or in collaboration with others;
- acceptance of the product by patients, the medical community and third-party payers;
- effectively competing with other therapies;
- a continued acceptable safety profile of the product following approval;
- obtaining, maintaining, enforcing and defending intellectual property rights and claims; and
- establishing distribution channels in Europe and U.S.

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 commercialize brincidofovir, which would materially harm our business.

We have never obtained regulatory approval for a drug and we may be unable to obtain, or may be delayed in obtaining, regulatory approval for brincidofovir.*

We have never obtained regulatory approval for a drug. It is possible that the FDA and/or foreign health authorities, such as the EMA, may refuse to accept our NDA (or corresponding foreign application) for substantive review or may conclude after review of our data that our application is insufficient to obtain regulatory approval of brincidofovir.

A numerical difference in mortality was observed in SUPPRESS and no survival benefit was observed when results from our AdVise study were compared to data from Study 305, our historical matched control study.

The AdAPT study is currently enrolling pediatric and young adult allogeneic HCT recipients with AdV infection to compare the AdV viral burden (AdV AAUC₀₋₁₆) in subjects randomized to oral brincidofovir to those who are treated with the local standard-of-care.

We have not yet reached agreement with the FDA or foreign regulators regarding the adequacy of these planned studies with respect to a potential approval for marketing. We may be required to conduct additional clinical, nonclinical or manufacturing validation studies and submit those data before reconsideration of our application occurs. Depending on the extent of these or any other required studies, approval of any NDA or application that we submit may be delayed by several years, or may require us to expend more resources than we have available. It is also possible that additional studies, if performed and completed, may not be considered sufficient by the FDA and/or foreign health authorities to approve our NDA or foreign application.

On August 4, 2017, we received correspondence from the FDA that indicated that we would need to conduct a second rabbitpox study of brincidofovir for the treatment of smallpox. We reached agreement with the FDA and BARDA on the design and conduct of this adjunct rabbitpox study and it was recently initiated. Through our continuing development contract with BARDA, we have completed confirmatory model characterization studies prior to conducting the pivotal efficacy study in the mouse model of smallpox infection (ectromelia virus). We believe that efficacy data from this model could serve as the second animal model to support the approval of brincidofovir for the treatment of smallpox.

Any delay in obtaining, or an inability to obtain, regulatory approvals would prevent us from commercializing brincidofovir, generating revenues and achieving and sustaining profitability. If any of these outcomes occur, we may be forced to abandon our development efforts for brincidofovir, which would have a material adverse effect on our business and could potentially cause us to cease operations.

We depend on the successful completion of animal efficacy studies for brincidofovir for the treatment of smallpox. The positive efficacy results obtained for brincidofovir for the treatment of rabbitpox in the rabbit animal model may not be repeated in future animal efficacy studies.*

Before obtaining regulatory approval for brincidofovir for the treatment of smallpox, we must conduct efficacy studies of brincidofovir in animal models of lethal orthopox infections. These studies are expensive and difficult to design and conduct, can take years to complete, and are uncertain as to outcome. We rely on a limited number of research organizations which conduct orthopox infection studies. A failure of one or more of our trials can occur at any stage of testing. The outcome of prior efficacy studies of brincidofovir may not be predictive of the success of later animal efficacy studies. Results of these studies are susceptible to varying interpretation.

On August 4, 2017, we received correspondence from the FDA that indicated that we would need to conduct a second rabbitpox study of brincidofovir for the treatment of smallpox. We reached agreement with the FDA and BARDA on the design and conduct of this adjunct rabbitpox study and it was recently initiated. Through our continuing development contract with BARDA, we have completed confirmatory model characterization studies prior to conducting the pivotal efficacy study in the mouse model of smallpox infection (ectromelia virus). We believe that efficacy data from this model could serve as the second animal model to support the approval of brincidofovir for the treatment of smallpox. It is our intention to continue development of brincidofovir for the treatment of smallpox through assessment of efficacy in animal models of orthopox virus infections.

We depend on the successful completion of clinical trials for our product candidates, including brincidofovir. The positive clinical results obtained for our product candidates in prior clinical studies may not be repeated in future clinical studies.*

Before obtaining regulatory approval for the sale of our product candidates, including brincidofovir, we must conduct extensive clinical trials to demonstrate the safety and efficacy of our 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 of our clinical trials can occur at any stage of testing. The outcome of preclinical testing and early clinical 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.

We may experience a number of unforeseen events during, or as a result of, clinical trials or animal efficacy studies for our product candidates, including brincidofovir, that could adversely affect the completion of our clinical trials, including:

- regulators or institutional review boards may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- animal efficacy studies of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us to conduct additional animal efficacy studies or abandon development programs;
- we might be required to change one of our clinical research organizations (CROs) during ongoing clinical programs;
- the number of subjects required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be insufficient or slower than we anticipate or subjects may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- we may have to suspend or terminate clinical trials of our product candidates for various reasons, including a finding that the subjects are being exposed to unacceptable health risks;
- regulators or institutional review boards may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements;
- the cost of clinical trials of our product candidates may be greater than we anticipate;
- we may encounter agency or judicial enforcement actions which impact our clinical trials;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate; or
- our product candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators to suspend or terminate the trials.

A numerical difference in mortality was observed in SUPPRESS and no survival benefit was observed when results from our AdVise study were compared to data from Study 305, our historical matched control study.

The AdAPT study is currently enrolling pediatric and young adult allogeneic HCT recipients with AdV infection to compare the AdV viral burden (AdV AAUC₀₋₁₆) in subjects randomized to oral brincidofovir to those who are treated with the local standard-of-care.

We do not know whether any clinical trials we may conduct will demonstrate adequate efficacy and safety to result in regulatory approval to market our product candidates, including brincidofovir. If later stage clinical trials do not produce favorable results, our ability to obtain regulatory approval for our product candidates, including brincidofovir, may be adversely impacted.

We are developing brincidofovir to treat patients who are extremely ill, and patient deaths that occur in our clinical trials could negatively impact our business even if they are not shown to be related to brincidofovir.

It is our intention to further develop our lead product candidate, brincidofovir, for the treatment of AdV infection through clinical trials, and for the prevention or treatment of other DNA viral infections. Many of these patients receive an HCT as a potential cure or remission for many cancers and genetic disorders. For example, patients that were enrolled in AdVise were often extremely sick and had a high likelihood of experiencing adverse outcomes as a result of their infection or due to other significant risks including relapse of their underlying malignancy. To prepare for an HCT, patients receive a pre-transplant conditioning regimen, which involves high-dose chemotherapy and may also include radiation therapy. The conditioning regimen suppresses the patient's immune system in order to prevent it from attacking the new bone marrow.

We are currently assessing the possibility of conducting additional clinical trials for oral or IV brincidofovir for other indications, including in the solid organ transplant setting. In this or other transplant settings, immunosuppressive therapies are administered to decrease the risk of organ rejection and are generally tapered after the first few months; the risk of severe viral infection is highest in the first few months. Generally, patients remain at high risk during the first 100 to 200 days following their transplant and are at increased risk of infections during that period, which can be serious, which may cause loss of the new organ, and which may be life-threatening due to their weakened immune systems.

As a result, it is likely that we will observe severe adverse outcomes during our clinical trials for brincidofovir, including patient death. If a significant number of study subject deaths were to occur, regardless of whether such deaths are attributable to brincidofovir, our ability to obtain regulatory approval and/or achieve commercial acceptance for brincidofovir may be adversely impacted and our business could be materially harmed.

Delays in clinical trials are common and have many causes, and any delay could result in increased costs to us and jeopardize or delay our ability to obtain regulatory approval and commence product sales.

Clinical testing is expensive, difficult to design and implement, can take many years to complete, and is uncertain as to outcome. We may experience delays in clinical trials at any stage of development and testing of our product candidates. Our planned clinical trials may not begin on time, have an effective design, enroll a sufficient number of subjects, or be completed on schedule, if at all.

Events which may result in a delay or unsuccessful completion of clinical trials, including our currently planned or future clinical trials for brincidofovir, include:

- inability to raise funding necessary to initiate or continue a trial;
- delays in obtaining, or failure to obtain, regulatory approval of Investigational New Drug applications or to commence a trial;
- delays in reaching agreement with the FDA and foreign health 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 caused by disagreements with existing CROs and/or clinical trial sites;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites;
- delays in obtaining, or failure to obtain, required IRB or ethics committee (EC) approvals covering each site;
- delays in recruiting suitable patients to participate in a trial;
- delays in having subjects complete participation in a trial or return for post-treatment follow-up;
- delays caused by subjects dropping out of a trial due to side effects or otherwise;
- clinical sites declining to participate or dropping out of a trial to the detriment of enrollment;
- agency or judicial enforcement actions against us;
- time required to add new clinical sites; and
- delays by our contract manufacturers to produce and deliver sufficient supply of clinical trial materials.

For example, due to the specialized indication and patient populations studied in our past and future clinical trials of brincidofovir, the number of study sites available to us is relatively limited, and therefore enrollment of suitable patients to participate in the trial may take longer than is typical for studies involving other indications. This may result in a delay or unsuccessful completion of our clinical trials.

If initiation or completion of any of our clinical trials for our product candidates, including brincidofovir, are delayed for any of the above reasons, our development costs may increase, our approval process could be delayed, any periods during which we may have the exclusive right to commercialize our product candidates may be reduced and our competitors may have more time to bring products to market before we do. Any of these events could impair our ability to generate revenues from product sales and impair our ability to generate regulatory and commercialization milestones and royalties, all of which could have a material adverse effect on our business.

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 (AEs) caused by our product candidates could cause us, other reviewing entities, clinical study sites or regulatory authorities to interrupt, delay or halt clinical studies and could result in the denial of regulatory approval. For example, subjects enrolled in our clinical trials for brincidofovir have experienced gastrointestinal AEs and liver-related safety laboratory value changes. In addition, brincidofovir is related to the approved drug cidofovir, a compound which has been shown to result in significant renal toxicity and impairment following use. There is also a risk that our other product candidates may induce AEs, many of which may be unknown at this time. If an unacceptable frequency and/or severity of AEs are reported in our clinical trials for our product candidates, our ability to obtain regulatory approval for product candidates, including brincidofovir, may be negatively impacted. We anticipate that we will need to conduct one or more additional clinical trials in order to attain FDA and/or foreign regulatory approval of brincidofovir.

If any of our approved products cause serious or unexpected side effects prior to or after receiving market approval, a number of potentially significant negative consequences could result, including:

- regulatory authorities may approve the product only with a REMS, potentially with restrictions on distribution and other elements to assure safe use (ETASU);
- regulatory authorities may withdraw their approval of the product or impose restrictions on its distribution in a form of a modified REMS;
- 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 to conduct additional clinical studies;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidate and could substantially increase the costs of commercializing our product candidates.

After the completion of our clinical trials, we cannot predict whether or when we will obtain regulatory approval to commercialize brincidofovir and we cannot, therefore, predict the timing of any future revenue from brincidofovir.

We cannot commercialize our product candidates, including brincidofovir, until the appropriate regulatory authorities 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 for brincidofovir. Additional delays in the United States may result if brincidofovir is brought before an FDA advisory committee, which could recommend restrictions on approval or recommend non-approval of the product candidate. In the EU context, an Oral Explanation during MAA review could extend approval timelines and result in a Negative Opinion. A re-examination procedure is available in the EU whereby a Negative Opinion could be over-turned and become a Positive Opinion. New rapporteurs would be selected for the product. In addition, we 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 studies and the review process. As a result, we cannot predict when, if at all, we will receive any future revenue from commercialization of any of our product candidates, including brincidofovir.

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

Even if we obtain regulatory approval, the granting authority may still impose significant restrictions on the indicated uses, distribution or marketing of our product candidates, including brincidofovir, or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance. For example, the labeling ultimately approved for our product candidates, including brincidofovir, will likely include restrictions on use due to the specific patient population and manner of use in which the drug was evaluated and the safety and efficacy data obtained in those evaluations. In addition, the distribution of brincidofovir may be tightly controlled through a REMS with ETASU, which are required medical interventions or other actions healthcare professionals need to execute prior to prescribing or dispensing the drug to the patient. Some actions may also be required in order for the patient to continue on treatment. In addition, the label for brincidofovir may be required to include a boxed warning, or “black box,” regarding brincidofovir being carcinogenic, teratogenic and impairing fertility in animal studies, as well as a contraindication in patients who have had a demonstrated clinically significant hypersensitivity reaction to brincidofovir or cidofovir or any component of the formulation. The brincidofovir labeling may also include warnings or black boxes pertaining to gastrointestinal AEs or liver-related safety laboratory value changes.

Brincidofovir and our other product candidates will also be subject to additional ongoing regulatory requirements governing the labeling, packaging, storage, distribution, safety surveillance, advertising, promotion, record-keeping and reporting of safety and other post-market information. In the United States, 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. If a REMS is required, the NDA holder may be required to monitor and evaluate those in the healthcare system who are responsible for implementing ETASU measures. 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. Moreover, EU and member countries impose strict restrictions on the promotion and marketing of drug products. The off-label promotion of medicinal products is prohibited in the U.S., EU and in other territories. The promotion of medicinal products that are not subject to a marketing authorization is also prohibited in the EU. Violations of the rules governing the promotion of medicinal products in the EU and in other territories could be penalized by administrative measures, fines and imprisonment.

In addition, manufacturers of drug products and their facilities are subject to payment of user fees and continual review and periodic inspections by regulatory authorities for compliance with cGMP, and adherence to commitments made in the application. If we, or a regulatory agency, discover previously unknown problems with a product, such as quality issues or 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 fail to comply with applicable regulatory requirements following approval of our product candidate, a regulatory agency may:

- issue an untitled or 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 application or supplements to an application submitted by us;
- recall and/or 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 brincidofovir and our other product candidates and inhibit our ability to generate revenues.

Obtaining FDA approval for brincidofovir or any of our other products in the United States does not mean we will ever obtain approval for or commercialize brincidofovir or any of our other products outside of the United States, nor does approval of brincidofovir or any of our other products outside the United States mean we will ever obtain approval for or commercialize brincidofovir or any of our other products inside the United States, all of which could limit our ability to realize their full market potential.

In order to market any products outside of the United States, we must establish and comply with numerous and varying regulatory requirements on a country-by-country basis regarding safety and efficacy. Approval by the FDA does not ensure approval by

regulatory authorities in other countries or jurisdictions. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country. Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approval could result in difficulties and costs for us and require additional preclinical studies or clinical trials which could be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. We do not have any product candidates approved for sale in any jurisdiction, including international markets, and we do not have experience in obtaining regulatory approval in any markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of our products will be unrealized.

Conversely, approval by regulatory authorities outside the United States, such as the European Commission, does not ensure approval by the FDA. Moreover, clinical trials conducted outside the United States may not be accepted by the FDA.

There is no guarantee that brincidofovir or any other of our product candidates will be eligible for or receive certain regulatory incentives, such as orphan drug designation, and even if they do, we may never actually realize some or all of the associated benefits, such as market exclusivity.

There are a variety of incentives made available by regulatory authorities in the United States, the EU, and other countries, such as orphan drug designation, which may benefit companies developing medicines in areas of unmet need. There is no guarantee, however, that brincidofovir or any of our other product candidates will be eligible for or receive such incentives. For example, even though the Company has received orphan designation for brincidofovir in the EU for the treatment of AdV in immunocompromised patients, prevention of CMV disease, and treatment of smallpox, the European Commission must determine that brincidofovir still meets the mandatory criteria for each of these orphan designations at the time of marketing approval, which may not happen.

Our relationships with investigators, health care professionals, consultants, third-party payers, and customers are subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.*

Healthcare providers, physicians and others play a primary role in the recommendation and prescribing of any products for which we obtain marketing approval. Our current business operations and future arrangements with investigators, healthcare professionals, consultants, third-party payers and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations. These laws may constrain the business or financial arrangements and relationships through which we research, market, sell and distribute our products for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations, include, but are not limited to, the following:

- the federal healthcare anti-kickback statute which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving or paying remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service, for which payment may be made, in whole or in part, under federal healthcare programs such as Medicare and Medicaid;
- the federal civil and criminal false claims laws, including the Federal False Claims Act, and the Federal Civil Monetary Penalties Act, including civil whistleblower or *qui tam* actions, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, to the federal government, claims for payment or approval that are false or fraudulent or from knowingly making a false statement to improperly avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA) which, among other things, imposes criminal liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or to obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payer (e.g., public or private) and knowingly or willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statement in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (HITECH) and their implementing regulations, and as amended again by the final HIPAA omnibus rule, Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under HITECH and the Genetic Information Nondiscrimination Act; Other Modifications to HIPAA, published in January 2013, which imposes certain obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and

- transmission of individually identifiable health information without appropriate authorization by entities subject to the rule, such as health plans, clearinghouses and certain healthcare providers, as well as their business associates;
- the General Data Protection Regulation (GDPR), which all impose obligations on companies in relation to the handling of personal data of individuals within the EU, along with any related national legislation;
 - mandated physician payments reporting laws and/or requirements throughout global jurisdictions, including EU member states, in which we conduct research and development and/or other business activities;
 - the FDCA which prohibits, among other things, the adulteration or misbranding of drugs and devices;
 - the federal transparency law, enacted as part of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the ACA), and its implementing regulations, which requires manufacturers of drugs, devices, biologicals and medical supplies to report to the U.S. Department of Health and Human Services information related to payments and other transfers of value made to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and
 - analogous state laws and regulations, including: state anti-kickback and false claims laws, which may apply to our business practices, including but not limited to, research, distribution, sales and marketing arrangements and claims involving healthcare items or services reimbursed by state governmental and non-governmental third-party payers, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; state and local laws that require the registration of pharmaceutical sales representatives; and state laws and regulations that require manufacturers to file reports relating to pricing and marketing information, which requires tracking gifts and other remuneration and items of value provided to healthcare professionals and entities.

Efforts to ensure that our business arrangements with third parties comply with applicable healthcare laws and regulations involve substantial costs. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations, agency guidance or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these or any other health regulatory laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, disgorgement, additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, exclusion from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our financial results. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and/or divert our management's attention from the operation of our business. If any of the physicians or other providers or entities with whom we expect to do business are found to be not in compliance with applicable laws, they also may be subject to criminal, civil or administrative sanctions, including, but not limited to, exclusions from government funded healthcare programs, which could also materially affect our business.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain.*

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any products for which we obtain marketing approval.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (Medicare Modernization Act) changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician-administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products. While the Medicare Modernization Act applies only to drug benefits for Medicare beneficiaries, private payers often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the Medicare Modernization Act may result in a similar reduction in payments from private payers.

More recently, in March 2010, the ACA was enacted to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. The ACA revises the definition of "average manufacturer price" for reporting purposes, which could increase the amount of Medicaid drug rebates to states. Further, the new law imposes a significant annual fee on companies that manufacture or import branded prescription drug products. New provisions affecting compliance have also been enacted, which may affect our business practices with health

care practitioners. However, there have been judicial and Congressional challenges to certain aspects of the ACA, as well as recent efforts by the Trump administration to repeal and replace certain aspects of the ACA, and we expect such challenges to continue. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have been enacted. The Tax Cuts and Jobs Act of 2017 (Tax Act) includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain fees mandated by the ACA, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the ACA, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, and also increases in 2019 the percentage that a drug manufacturer must discount the cost of prescription drugs from 50 percent under current law to 70 percent. Moreover, in July 2018, CMS published a final rule permitting further collection and payments to and from certain ACA qualified health plans and health insurance issuers under the ACA risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. Congress also could consider additional legislation to repeal or repeal and replace other elements of the ACA.

Although it is too early to determine the full effect of the ACA, the law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

Legislative and regulatory proposals have also been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products.

Additionally, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the federal level, the Trump administration's budget proposal for fiscal year 2019 contains additional drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid and to eliminate cost sharing for generic drugs for low-income patients. Further, the Trump administration released a "Blueprint" to lower drug prices and reduce out-of-pocket costs of drugs. This "Blueprint" contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out-of-pocket costs of drug products paid by consumers. The U.S. Department of Health and Human Services has already started the process of soliciting feedback on some of these measures and, at the same time, is immediately implementing other measures under its existing authority. For example, in September 2018, CMS announced that it will allow Medicare Advantage Plans the option to use step therapy for Part B drugs beginning January 1, 2019, and in October 2018, CMS proposed a new rule that would require direct-to-consumer television advertisements of prescription drugs and biological products, for which payment is available through or under Medicare or Medicaid, to include in the advertisement the Wholesale Acquisition Cost, or list price, of that drug or biological product. Although a number of these, and other potential, proposals will require authorization through additional legislation to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

Further, on May 30, 2018, the Trickett Wendler, Frank Mongiello, Jordan McLinn, and Matthew Bellina Right to Try Act of 2017 (Right to Try Act) was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase I clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act.

Healthcare reform measures that may be adopted in the future may result in more rigorous coverage criteria, lower reimbursement, and additional downward pressure on the price that we receive for any future approved product. We cannot predict what healthcare reform initiatives may be adopted in the future.

Risks Related to Our Reliance on Third Parties

We rely on third-party manufacturers to produce our preclinical and clinical drug supplies, and we intend to rely on third parties to produce commercial supplies of any approved product candidates.

We do not own or operate, and we do not expect to own or operate, facilities for product manufacturing, storage and distribution, or testing. In the past, we have relied on third-party manufacturers for supply of our preclinical and clinical drug supplies. We expect that in the future we will continue to rely on such manufacturers for drug supply that will be used in clinical trials of our product candidates, including brincidofovir, and for commercialization of any of our product candidates that receive regulatory approval.

Our reliance on third-party manufacturers entails risks, including:

- inability to meet our product specifications and quality requirements consistently;
- delay or inability to procure or expand sufficient manufacturing capacity;
- manufacturing and product quality issues related to scale-up of manufacturing;
- costs and validation of new equipment and facilities required for scale-up;
- failure to comply with cGMP and similar foreign standards;
- inability to negotiate manufacturing agreements with third parties under commercially reasonable terms;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us;
- reliance on a limited number of sources, and in some cases, single sources for product components, such that if we are unable to secure a sufficient supply of these product components, we will be unable to manufacture and sell our product candidates in a timely fashion, in sufficient quantities or under acceptable terms;
- lack of qualified backup suppliers for those components that are currently purchased from a sole or single source supplier;
- operations of our third-party manufacturers or suppliers could be disrupted by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier;
- carrier disruptions or increased costs that are beyond our control; and
- failure to deliver our products under specified storage conditions and in a timely manner.

Any of these events could lead to clinical study delays, failure to obtain regulatory approval or impact our ability to successfully commercialize our products. Some of these events could be the basis for FDA or equivalent foreign regulator action, including injunction, recall, seizure, or total or partial suspension of production.

We rely on limited sources of supply for the drug component for our lead product candidate, brincidofovir, and any disruption in the chain of supply may cause delay in developing and commercializing brincidofovir.

Manufacturing of drug components is subject to certain FDA and comparable foreign qualifications with respect to manufacturing standards. We are currently validating the drug substance manufacturing process at our selected contractor that will produce the commercial supply of drug substance and have selected commercial tablet and suspension manufacturers to optimize tablet and suspension formulation production to meet forecasted commercial demand. There can be no assurance that such transfer to the selected vendors will be successful. It is our expectation that only one supplier of drug substance and one supplier of drug product will be qualified as vendors with the FDA. If supply from an approved vendor is interrupted, there could be a significant disruption in commercial supply of brincidofovir. An alternative vendor would need to be qualified through an NDA supplement which could result in further delay. The FDA or other regulatory agencies outside of the United States may also require additional studies if a new drug substance or drug product supplier is relied upon for commercial production.

These factors could cause the delay of clinical trials, regulatory submissions, required approvals or commercialization of brincidofovir, and cause us to incur additional costs. Furthermore, if our suppliers fail to deliver the required commercial quantities of active pharmaceutical ingredient on a timely basis and at commercially reasonable prices, and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical trials for brincidofovir may be delayed, which could inhibit our ability to generate revenues.

Manufacturing issues may arise that could increase product and regulatory approval costs or delay commercialization of brincidofovir.

We have a validated process for drug substance production for brincidofovir at a scale that is well in excess of our anticipated commercial scale. We are currently revalidating our drug substance process, and will begin revalidating our drug product processes, using our current commercial processes at our intended commercial scale with our intended commercial manufacturers.

The validation processes, along with ongoing stability studies and analyses we are conducting, may reveal difficulties in our processes which could require resolution in order to proceed with our planned clinical trials and obtain regulatory approval for the commercial marketing of brincidofovir. In the future, we may identify significant impurities, which could result in increased scrutiny by the regulatory agencies, delays in clinical program and regulatory approval for brincidofovir, increases in our operating expenses, or failure to obtain or maintain approval for brincidofovir.

We depend on the continuation of our current collaboration with ContraVir Pharmaceuticals, who is currently responsible for developing and commercializing CMX157.

In 2014, we entered into a licensing arrangement with ContraVir, whereby ContraVir is responsible for the future development and commercialization of CMX157. Under this arrangement, ContraVir is responsible for conducting preclinical studies and clinical trials, obtaining required regulatory approvals for CMX157, and manufacturing and commercializing CMX157. Our right to receive milestone and royalty payments under the licensing agreement depends on the achievement of certain development, regulatory and commercial milestones by ContraVir.

The development and commercialization of CMX157 and our ability to receive potential milestones and royalty payments under the license agreement with ContraVir, would be adversely affected if ContraVir:

- lacks or does not devote sufficient time and resources to the development and commercialization of CMX157;
- lacks or does not devote sufficient capital to fund the development and commercialization of CMX157;
- develops, either alone or with others, products that compete with CMX157;
- fails to gain the requisite regulatory approvals for CMX157;
- does not successfully commercialize CMX157;
- does not conduct its activities in a timely manner;
- terminates its license with us;
- does not effectively pursue and enforce intellectual property rights relating to CMX157; or
- merges with a third-party that wants to terminate the collaboration.

We have limited or no control over the occurrence of any of the foregoing. Furthermore, disagreements with ContraVir could lead to litigation or arbitration, which could be time-consuming and expensive. If any of these issues arise, it may delay the development and commercialization milestones and royalties based on further development and sales of CMX157.

We rely on third parties to conduct, supervise and monitor our clinical studies and related data, and if those third parties perform in an unsatisfactory manner, it may harm our business.

We rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials. While we have agreements governing their activities, we have limited influence over their actual performance. We have relied and plan to continue to rely upon CROs to monitor and manage data for our ongoing clinical programs for brincidofovir and our other product candidates, as well as the execution of nonclinical studies. We control only certain aspects of our CROs' activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on CROs does not relieve us of our regulatory responsibilities.

We and our CROs are required to comply with the FDA's guidance for clinical trials conducted within the jurisdiction of the United States (or the foreign regulatory authority equivalent for clinical trials conducted outside the jurisdiction of the United States), which follows the International Conference on Harmonization Good Clinical Practice (ICH GCP), which are regulations and guidelines enforced by the FDA for all of our product candidates in clinical development. The FDA enforces the ICH GCP through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with the ICH GCP, the clinical data generated in our clinical trials may be deemed unreliable and the FDA may require us to perform additional clinical trials before approving our marketing applications. In addition, our Phase 3 clinical trials for brincidofovir will require a sufficiently large number of test subjects to evaluate the safety and effectiveness of brincidofovir. Accordingly, if our CROs fail to comply with these regulations or fail to recruit a sufficient number of subjects, we may be required to repeat these Phase 3 clinical trials, which would delay the regulatory approval process.

Our CROs are not our employees, and we cannot control whether or not they devote sufficient time and resources to our ongoing clinical and nonclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical studies, or other drug development activities which could harm our competitive position. We face the risk of potential unauthorized disclosure or misappropriation of our intellectual property by CROs, which may reduce our trade secret protection and allow our potential competitors to access and exploit our proprietary technology.

If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize brincidofovir or our other product candidates. Disagreements with our CROs over contractual issues, including performance, compliance or compensation could lead to termination of CRO agreements and/or delays in our clinical program and risks to the accuracy and usability of clinical data. As a result, our financial results and the commercial prospects for brincidofovir and any other product candidates that we develop would be harmed, our costs could increase, and our ability to generate revenues could be delayed.

Risks Related to Commercialization of Our Product Candidates

The commercial success of brincidofovir and our other product candidates will depend upon the acceptance of these products by the medical community, including physicians, patients, pharmacists and health care payers.*

If any of our product candidates, including brincidofovir, receive marketing approval, they may nonetheless not gain sufficient market acceptance by physicians, patients, healthcare payers and others in the medical community. If these products do not achieve an adequate level of market acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of any of our product candidates, including brincidofovir, will depend on a number of factors, including:

- demonstration of clinical safety and efficacy in our clinical trials;
- relative convenience, ease of administration and acceptance by physicians, patients, pharmacists and health care payers;
- prevalence and severity of any AEs;
- limitations or warnings contained in the FDA-approved labeling from Regulatory Authorities such as the FDA and EMA for the relevant product candidate;
- availability, efficacy and safety of alternative treatments;
- price and cost-effectiveness;
- effectiveness of our or any future collaborators' or competitor's sales and marketing strategies;
- ability to obtain hospital formulary approval;
- ability to ensure availability for product through appropriate channels;
- ability to maintain adequate inventory; and
- ability to obtain and maintain sufficient third-party coverage and adequate reimbursement, which may vary from country to country.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate any revenue.

We currently do not have an organization for the sales and distribution of pharmaceutical products. The cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. In order to market any products that may be approved, including brincidofovir, we must establish our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. We may enter into strategic partnerships with third parties to commercialize our product candidates, including brincidofovir.

Our strategy for brincidofovir is to establish a specialty sales force and/or collaborate with third parties to promote the product to healthcare professionals and third-party payers in the United States and elsewhere. We may elect to launch with a contract sales organization and utilize accompanying commercial support services provided by a contract sales organization. Our future collaboration partners, if any, may not dedicate sufficient resources to the commercialization of our product candidates or may otherwise fail in their commercialization due to factors beyond our control. If we are unable to establish effective collaborations to enable the distribution and sale of our product candidates to healthcare professionals and in geographical regions, including the United States, that are not covered by our own marketing and sales force, or if our potential future collaboration partners do not

successfully commercialize our product candidates, our ability to generate revenues from product sales, including sales of brincidofovir, will be adversely affected.

Establishing an internal or contract sales force involves many challenges, including:

- recruiting and retaining talented people;
- training employees that we recruit;
- establishing compliance standards;
- setting the appropriate system of incentives;
- managing additional headcount;
- ensuring that appropriate support functions are in place to support sales force organizational needs; and
- integrating a new business unit into an existing corporate architecture.

If we are unable to establish our own sales force or negotiate a strategic partnership for the commercialization of brincidofovir in any markets, we may be forced to delay the potential commercialization of brincidofovir in those markets, reduce the scope of our sales or marketing activities for brincidofovir in those markets or undertake the commercialization activities for brincidofovir in those markets at our own expense. If we elect to increase our expenditures to fund commercialization activities ourselves, we will need to obtain additional capital, which may not be available to us on acceptable terms, or at all. If we do not have sufficient funds, we will not be able to bring brincidofovir to market or generate product revenue. Limited or lack of funding will impede our ability to achieve successful commercialization.

If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate sufficient product revenue and may not become profitable. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

In addition, there are risks involved with both establishing our own sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time-consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales, marketing and market access personnel.

If we obtain approval to commercialize any products outside of the United States, a variety of risks associated with international operations could materially adversely affect our business.*

If our product candidates are approved for commercialization, we may enter into agreements with third parties to market those product candidates outside the United States, including brincidofovir. We expect that we will be subject to additional risks related to entering into international business relationships, including:

- different regulatory requirements for drug approvals in the EU and other foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory and labor requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- differing payer reimbursement regimes, governmental payers or patient self-pay systems and price controls;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad;
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires; and
- regulatory and compliance risks that relate to maintaining accurate information and control over activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act, its books and records provisions or its anti-bribery provisions, or similar anti-bribery or anti-corruption laws and regulations.

We have limited experience in these areas. In addition, there are complex regulatory, tax, labor and other legal requirements imposed by both the EU and many of the individual countries in Europe with which we will need to comply. Many U.S.-based biopharmaceutical companies have found the process of marketing their own products outside the United States to be very challenging.

*We face significant competition from other biotechnology and pharmaceutical companies and our operating results will suffer if we fail to compete effectively.**

The biotechnology and pharmaceutical industries are intensely competitive. We have competitors both in the United States and internationally, including major multinational pharmaceutical companies, biotechnology companies and universities and other research institutions.

Based on market research, competing products that are currently used to prevent or treat AdV and/or CMV include and are not limited to:

- Vistide® (cidofovir for injection), marketed by Gilead Sciences, Inc. and generic manufacturers;
- oral and intravenous ganciclovir, a drug that is sold by generic manufacturers;
- Valcyte® (valganciclovir), a prodrug of ganciclovir that is marketed by Genentech, Inc. and generic manufacturers;
- foscarnet sodium for injection available through generic manufacturers;
- acyclovir, a drug that is sold by generic manufacturers; and
- Prevymis® (letermovir), an anti-CMV drug marketed by Merck & Co., Inc.

Other product candidates currently in development or under regulatory review may compete against brincidofovir for the prevention or mitigation of AdV and/or CMV infection in a variety of settings, including:

- maribavir (SHP620) from Shire for CMV infections in transplant recipients; and
- patient-specific T-cell therapies directed at antigens of CMV and other DNA viruses, including AdV.

Many of our competitors have substantially greater financial, technical, commercial and other resources, such as larger research and development staff, stronger intellectual property portfolios and experienced marketing and manufacturing organizations and established sales forces. Additional mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors.

Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, drug products that are more effective or less costly than brincidofovir or any other drug candidate that we are currently developing or that we may develop.

We will face competition from other drugs currently approved or that will be approved in the future for the same indications. Therefore, our ability to compete successfully will depend largely on our ability to:

- discover and develop medicines that are superior to other products in the market;
- demonstrate through our clinical trials that our product candidates, including brincidofovir, are differentiated from existing and future therapies;
- evaluate new potential indications across the lifecycle of brincidofovir;
- attract qualified scientific, product development and commercial personnel;
- obtain and successfully defend and enforce patent and/or other proprietary protection for our medicines and technologies;
- obtain required regulatory approvals;
- successfully collaborate with pharmaceutical companies in the discovery, development and commercialization of new medicines;
- deliver a competitive value proposition compared to established competition and/or competitors who will enter the market before or after any of our product candidates, including brincidofovir; and
- negotiate competitive pricing and reimbursement with third-party payers.

The availability of our competitors' products could limit the demand, and the price we are able to charge, for brincidofovir and any other product candidate we develop. We will not achieve our business plan if the acceptance of brincidofovir is inhibited by price competition or reimbursement issues or the reluctance of physicians to switch from existing drug products to brincidofovir, or if physicians switch to other new drug products or choose to reserve brincidofovir for use in limited circumstances. The inability

to compete with existing or subsequently introduced drug products would have a material adverse impact on our business, financial condition and prospects.

Established pharmaceutical companies may invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make our product candidates, including brincidofovir, less competitive. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, our competitors may succeed in obtaining patent protection, receiving FDA approval or discovering, developing and commercializing medicines before we do, which would have a material adverse impact on our business.

New technologies or procedures could be developed that would change or restrict the number of patients undergoing hematopoietic cell or solid organ transplants. A reduction in the number of transplants could negatively impact our commercial business by decreasing sales of our products and limiting peak sales potential.

Hospital formulary approval and reimbursement may not be available for brincidofovir and our other product candidates, which could make it difficult for us to sell our products profitably.*

Obtaining hospital formulary approval can be an expensive and time-consuming process. We cannot be certain if and when we will obtain formulary approval to allow us to sell our product candidates, including brincidofovir, into our target markets. Failure to obtain timely formulary approval will limit our commercial success.

Furthermore, market acceptance and sales of brincidofovir, or any other product candidates that we develop, will depend in part on the extent to which reimbursement for these products and related treatments will be available from third-party payers such as government health administration authorities, private health insurers and other organizations. Third-party payers decide which drugs they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Third-party payers have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Obtaining reimbursement for our products may be particularly difficult because of the higher prices often associated with products administered under the supervision of a physician. We cannot be sure that reimbursement will be available for brincidofovir, or any other product candidates.

Also, reimbursement amounts may reduce the demand for, or the price of, our products. If reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize brincidofovir, or any other product candidates that we develop.

There have been a number of legislative and regulatory proposals to change the healthcare system in the United States and in some foreign jurisdictions that could affect our ability to sell any future products profitably. These legislative and regulatory changes may negatively impact the reimbursement for any future products, following approval. The availability of generic treatments may also substantially reduce the likelihood of reimbursement for any future products, including brincidofovir. The application of user fees to generic drug products will likely expedite the approval of additional generic drug treatments. We expect to experience pricing pressures in connection with the sale of brincidofovir and any other product candidate that we develop, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. In addition, there may be significant delays in obtaining reimbursement for approved products, and coverage may be more limited than the purposes for which the product is approved by the FDA or regulatory authorities in other countries. Moreover, eligibility for reimbursement does not imply that any product will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim payments for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Payment rates may vary according to the use of the product and the clinical setting in which it is used, may be based on payments allowed for lower cost products that are already reimbursed, and may be incorporated into existing payments for other services. Net prices for products may be reduced by mandatory discounts or rebates required by government healthcare programs or private payers and by any future relaxation of laws that presently restrict imports of products from countries where they may be sold at lower prices than in the United States. Third-party payers often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies, but also have their own methods and approval process apart from Medicare determinations. Therefore, one third-party payer's determination to provide coverage for a product does not assure that other payers will also provide coverage for the product.

Our inability to promptly obtain coverage and profitable payment rates from both government funded and private payers for any of our product candidates, including brincidofovir, could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

The success of our business depends primarily upon our ability to identify, develop and commercialize product candidates. Because we have limited financial and managerial resources, we focus on research programs and product candidates for specific indications. As a result, we may forego or delay pursuit of opportunities with other product candidates or other indications that later prove to have greater commercial potential.

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 collaboration partners may be unsuccessful in identifying potential product candidates;
- our 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; and
- our collaboration 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 research efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

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 collaboration, licensing or other royalty arrangements in cases in which it would have been advantageous for us to retain sole development and commercialization rights.

Risks Related to Our Intellectual Property

If we are unable to obtain or protect intellectual property rights related to our products and product candidates, we may not be able to compete effectively in our market.

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our products and product candidates. The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. The patent applications that we own or in-license may fail to result in issued patents with claims that cover the products in the United States or in other countries. If this were to occur, early generic competition could be expected against brincidofovir and any other product candidates in development. There is no assurance that all of the potentially relevant prior art relating to our patents and patent applications has been found, which can invalidate a patent or prevent a patent from issuing based on a pending patent application. Even if patents do successfully issue, third parties may challenge their validity, enforceability, scope or ownership, which may result in such patents, or our rights to such patents, being narrowed or invalidated.

Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing around our claims. If the patent applications we hold or license with respect to brincidofovir fail to issue or if their breadth or strength of protection is threatened, it could dissuade companies from collaborating with us to develop, and threaten our ability to commercialize, our products. We cannot offer any assurances about which, if any, patents will issue or whether any issued patents will be found not invalid and not unenforceable, will go unthreatened by third parties or will adequately protect our products and product candidates. Further, if we encounter delays in regulatory approvals, the period of time during which we could market brincidofovir under patent protection could be reduced. Since patent applications in the United States and most other countries are confidential for a period of time after filing, and some remain so until issued, we cannot be certain that we or our licensors were the first to file any patent application related to brincidofovir or our other product candidates. Furthermore, if third parties have filed such patent applications, an interference proceeding in the United States can be provoked by a third party or instituted by us to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license it from the prevailing party, which may not be possible. In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable, processes for which patents are difficult to enforce and other elements of our drug discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. Although we expect all of our employees to assign their inventions to us, and all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information or technology to enter into

confidentiality agreements, we cannot provide any assurances that all such agreements have been duly executed, that such agreements provide adequate protection and will not be breached, that our trade secrets and other confidential proprietary information will not otherwise be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. If we are unable to prevent material disclosure of the non-patented intellectual property related to our technologies to third parties, and there is no guarantee that we will have any such enforceable trade secret protection, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, results of operations and financial condition.

Further, the laws of some foreign countries do not protect patents and other proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property abroad. We may also fail to pursue or obtain patents and other intellectual property protection relating to our products and product candidates in all foreign countries.

Finally, certain of our activities and our licensors' activities have been funded, and may in the future be funded, by the U.S. federal government. When new technologies are developed with U.S. federal government funding, the government obtains certain rights in any resulting patents, including a nonexclusive license authorizing the government to use the invention for non-commercial purposes. These rights may permit the government to disclose our confidential information to third parties and to exercise "march-in" rights to use or allow third parties to use our patented technology. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the U.S. government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations or to give preference to U.S. industry. In addition, U.S. government-funded inventions must be reported to the government, U.S. government funding must be disclosed in any resulting patent applications, and our rights in such inventions may be subject to certain requirements to manufacture products in the United States.

Third-party claims of intellectual property infringement may prevent or delay our development and commercialization efforts or otherwise affect our business.

Our commercial success depends in part on our avoiding infringement and other violations of the patents and proprietary rights of third parties. There is a substantial amount of litigation, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interferences, oppositions and inter party reexamination proceedings before the United States Patent and Trademark Office (U.S. PTO) and its foreign counterparts. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we and our collaborators are developing product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, and as we gain greater visibility and market exposure as a public company, the risk increases that our product candidates or other business activities may be subject to claims of infringement of the patent and other proprietary rights of third parties. Third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of brincidofovir and/or our other product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our product candidates, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire.

Similarly, if any third-party patent were held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or methods of use, including combination therapy, the holders of any such patent may be able to block our ability to develop and commercialize the applicable product candidate unless we obtained a license or until such patent expires. In either case, such a license may not be available on commercially reasonable terms or at all. In addition, we may be subject to claims that we are infringing other intellectual property rights, such as trademarks or copyrights, or misappropriating the trade secrets of others, and to the extent that our employees, consultants or contractors use intellectual property or proprietary information owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful infringement or other intellectual property claim against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our affected products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether

any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we have done so from time to time. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize one or more of our product candidates, which could harm our business significantly. We cannot provide any assurances that third-party patents do not exist which might be enforced against our products or product candidates, resulting in either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties.

We license certain key intellectual property from third parties, and the loss of our license rights could have a materially adverse effect on our business.

We are a party to a number of technology licenses that are important to our business and expect to enter into additional licenses in the future. For example, we rely on an exclusive license to certain patents, proprietary technology and know-how from UC, which we believe cover brincidofovir. We also have an exclusive license to certain patents covering inventions of the UM. If we fail to comply with our obligations under our license agreements, or we are subject to a bankruptcy, the licensor may have the right to terminate the license, in which event we would not be able to develop or market products covered by the license, including in the case of the UC license, brincidofovir, or in the case of the UM license, CMX521, either of which would have a materially adverse effect on our business.

We may be involved in lawsuits to protect or enforce our patents, the patents of our licensors or our other intellectual property rights, which could be expensive, time consuming and unsuccessful.

Competitors may infringe or otherwise violate our patents, the patents of our licensors or our other intellectual property rights. To counter infringement or unauthorized use, we may be required to file legal claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours or our licensors is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing. The initiation of a claim against a third party may also cause the third party to bring counter-claims against us.

We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States. Our business could be harmed if in a litigation the prevailing party does not offer us a license on commercially reasonable terms. Any litigation or other proceedings to enforce our intellectual property rights may fail, and even if successful, may result in substantial costs and distract our management and other employees.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees on any issued patent are due to be paid to the U.S. PTO and foreign patent agencies in several stages over the lifetime of the patent. The U.S. PTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process.

While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we or our licensors that control the prosecution and maintenance of our licensed patents fail to maintain the patents and patent applications covering our product candidates, we may lose our rights and our competitors might be able to enter the market, which would have a material adverse effect on our business.

Risks Related to Our United States Government Contracts and Grants

*All of our immediately foreseeable future revenues to support the development of brincidofovir for the treatment of smallpox are dependent upon our contract with the Biomedical Advanced Research and Development Authority (BARDA), and if we do not receive all of the funds under the BARDA contract we anticipate that we will suspend or terminate our smallpox program.**

Substantially all of our revenues that support the development of brincidofovir for the treatment of smallpox have been derived from prior government grants and our current development contract with BARDA. Our contract with BARDA is for the development of brincidofovir for the treatment of smallpox. It is divided into a base segment and four option segments. We substantially completed performance under the first option segment of the contract in August 2014 and are currently performing under the second and third option segments of the contract which are scheduled to end in March 2019. Subsequent option segments are not subject to automatic renewal and are not exercisable at our discretion. There can be no assurance that we will reach agreement with BARDA on the most appropriate development pathway or that the FDA will ultimately agree with the experiments which we perform or the appropriateness of the results of these experiments for approval of brincidofovir for smallpox. In addition, there can be no assurance that any of the subsequent option segments will be exercised or that we will continue to receive revenues under this contract once the current option segments are completed. We do not anticipate continuing this program without ongoing support from BARDA.

Additionally, the contract provides for reimbursement of the costs of the development of brincidofovir for the treatment of smallpox that are allowable under the Federal Acquisition Regulation (FAR), plus the payment of a fixed fee. It does not include the manufacture of brincidofovir for the Strategic National Stockpile. There can be no assurances that this contract will continue, that BARDA will extend the contract for additional option segments, that any such extension would be on favorable terms, or that we will be able to enter into new contracts with the United States government to support our smallpox program. Changes in government budgets and agendas may result in a decreased and de-prioritized emphasis on supporting the discovery and development of brincidofovir for the treatment of smallpox. In such event, BARDA is not required to continue funding our existing contract. Any such reduction in our revenues from BARDA or any other government contract could materially adversely affect our financial condition and results of operations. In addition, if we do not receive all of the funds under the BARDA contract, we anticipate that we will suspend or terminate our program for the development of brincidofovir for the treatment of smallpox.

*There can be no assurances that we will be able to enter into a contract with BARDA to act as the sole supplier for the procurement of brincidofovir for the treatment of smallpox.**

In April 2015, BARDA posted a notice of intent to use other than full and open competition to award a sole source contract to us for the procurement of brincidofovir for the treatment of smallpox. In May 2015, BARDA posted an approved justification for the use of other than full and open competition for the contract. In July 2015, BARDA issued a RFP entitled "2015 Procurement of a Second Smallpox Antiviral Drug for the Strategic National Stockpile." In August 2015, we submitted a response to the RFP and we subsequently engaged in discussions with BARDA regarding our response. The issuance of that RFP did not culminate with agreement for the sole source supply of brincidofovir for the Strategic National Stockpile.

We remain in discussions with BARDA regarding the potential to supply brincidofovir to the Strategic National Stockpile, however, there can be no assurances regarding any such procurement. We continue to receive funding under an advanced research and development contract for the development of brincidofovir for the treatment of smallpox. We are currently evaluating brincidofovir for efficacy in two different animal models to support potential approval under the FDA's animal rule.

On August 4, 2017, we received correspondence from the FDA that indicated that we would need to conduct a second rabbitpox study of brincidofovir for the treatment of smallpox. We reached agreement with the FDA and BARDA on the design and conduct of this adjunct rabbitpox study and it was recently initiated. Through our continuing development contract with BARDA, we have completed confirmatory model characterization studies prior to conducting the pivotal efficacy study in the mouse model of smallpox infection (ectromelia virus). We believe that efficacy data from this model could serve as the second animal model to support the approval of brincidofovir for the treatment of smallpox.

Unfavorable provisions in government contracts, including our contract with BARDA, may harm our business, financial condition and operating results.

United States government contracts typically contain unfavorable provisions and are subject to audit and modification by the government at its sole discretion, which will subject us to additional risks. For example, under our contract with BARDA, the U.S. government has the power to unilaterally:

- audit and object to any BARDA contract-related costs and fees on grounds that they are not allowable under the FAR, and require us to reimburse all such costs and fees;
- suspend or prevent us for a set period of time from receiving new contracts or extending our existing contract based on violations or suspected violations of laws or regulations;
- claim nonexclusive, nontransferable rights to product manufactured and intellectual property developed under the BARDA contract and may, under certain circumstances, such as circumstances involving public health and safety, license such inventions to third parties without our consent;
- cancel, terminate or suspend our BARDA contract based on violations or suspected violations of laws or regulations;
- terminate our BARDA contract in whole or in part for the convenience of the government for any reason or no reason, including if funds become unavailable to the applicable governmental agency;
- reduce the scope and value of our BARDA contract;
- decline to exercise an option to continue the BARDA contract;
- direct the course of a development program in a manner not chosen by the government contractor;
- require us to perform the option segments even if doing so may cause us to forego or delay the pursuit of other opportunities with greater commercial potential;
- take actions that result in a longer development timeline than expected; and
- change certain terms and conditions in our BARDA contract.

The U.S. government also has the right to terminate the BARDA contract if termination is in the government's interest, or if we default by failing to perform in accordance with the milestones set forth in the contract. Termination-for-convenience provisions generally enable us to recover only our costs incurred or committed (plus a portion of the agreed fee) and settlement expenses on the work completed prior to termination. Except for the amount of services received by the government, termination-for-default provisions do not permit recovery of fees.

In addition, we must comply with numerous laws and regulations that affect how we conduct business with the United States government. Among the most significant government contracting regulations that affect our business are:

- FAR, and agency-specific regulations supplements to the FAR, which comprehensively regulate the procurement, formation, administration and performance of government contracts and implement federal procurement policy in numerous areas, such as employment practices, protection of the environment, accuracy and retention periods of records, recording and charging of costs, treatment of laboratory animals and human subject research;
- business ethics and public integrity obligations, which govern conflicts of interest and the hiring of former government employees, restrict the granting of gratuities and funding of lobbying activities and incorporate other requirements such as the Anti-Kickback Act and the Foreign Corrupt Practices Act;
- export and import control laws and regulations; and
- laws, regulations and executive orders restricting the use and dissemination of information classified for national security purposes and the exportation of certain products and technical data.

Furthermore, we may be required to enter into agreements and subcontracts with third parties, including suppliers, consultants and other third-party contractors, in order to satisfy our contractual obligations pursuant to our agreements with the U.S. government. Negotiating and entering into such arrangements can be time-consuming and we may not be able to reach agreement with such third parties. Any such agreement must also be compliant with the terms of our government contract. Any delay or inability to enter into such arrangements or entering into such arrangements in a manner that is non-compliant with the terms of our contract, may result in violations of our contract.

As a result of these unfavorable provisions, we must undertake significant compliance activities. The diversion of resources from commercial programs to these compliance activities, as well as the exercise by the U.S. government of any rights under these provisions, could materially harm our business.

Our business is subject to audit by the U.S. government, including under our contract with BARDA, and a negative audit could adversely affect our business.

United States government agencies, such as the DHHS, routinely audit and investigate government contractors and recipients of federal grants, including our contract with BARDA. These agencies review a contractor's performance under its contracts, cost structure and compliance with applicable laws, regulations and standards.

The DHHS can also review the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's purchasing, property, estimating, compensation and management information systems. Any costs found to be improperly allocated to a specific contract will not be reimbursed, while such costs already reimbursed must be refunded. If an audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions, including:

- termination of contracts;
- forfeiture of profits;
- suspension of payments;
- fines; and
- suspension or prohibition from conducting business with the U.S. government.

In addition, we could suffer serious reputational harm if allegations of impropriety were made against us by the U.S. government, which could adversely affect our business.

Agreements with government agencies may lead to claims against us under the Federal False Claims Act, and these claims could result in substantial fines and other penalties.*

The biopharmaceutical industry is, and in recent years has been, under heightened scrutiny as the subject of government investigations and enforcement actions. Our BARDA contract is subject to substantial financial penalties under the Federal Civil Monetary Penalties Act and the Federal Civil False Claims Act (False Claims Act). The False Claims Act imposes liability on any person who, among other things, knowingly presents, or causes to be presented, a false record or statement material to a false or fraudulent claim paid or approved by the government. Under the False Claims Act's "whistleblower" provisions, private enforcement of fraud claims against businesses on behalf of the U.S. government has increased due in part to amendments to the False Claims Act that encourage private individuals to sue on behalf of the government. These whistleblower suits, known as *qui tam* actions, may be filed by private individuals, including present and former employees. The False Claims Act provides for treble damages and up to \$22,363 per false claim. If our operations are found to be in violation of any of these laws, or any other governmental regulations that apply to us, we may be subject to penalties, including civil, criminal and administrative penalties, damages, fines, exclusion from the Medicare and Medicaid programs, and the curtailment or restructuring of our operations. Any penalties, damages, fines, exclusions, curtailment, or restructuring of our operations could adversely affect our ability to operate our business and our financial results.

Risks Related to Our Business Operations and Industry

Increasing demand for compassionate use of our unapproved therapies could result in losses.*

We are developing brincidofovir for life-threatening illnesses for which there are currently limited to no available therapeutic options. During 2014, we were the target of an active and disruptive social media campaign related to a request for access to our unapproved drug, brincidofovir. If we experience similar social media campaigns in the future, we may experience significant disruption to our business which could result in losses.

Recent media attention to individual patients' expanded access requests has resulted in the introduction of legislation at the local and national level referred to as "Right to Try" laws, such as the Right to Try Act, which are intended to give patients access to unapproved therapies. New and emerging legislation regarding expanded access to unapproved drugs for life-threatening illnesses could negatively impact our business in the future.

A possible consequence of both activism and legislation in this area is the need for us to initiate an unanticipated expanded access program or to make brincidofovir more widely available sooner than anticipated. We are a small company with limited resources and unanticipated trials or access programs could result in diversion of resources from our primary goals.

In addition, patients who receive access to unapproved drugs through compassionate use or expanded access programs have life-threatening illnesses and have exhausted all other available therapies. The risk for serious adverse events in this patient population

is high which could have a negative impact on the safety profile of brincidofovir, which could cause significant delays or an inability to successfully commercialize brincidofovir, which could materially harm our business. We may also need to restructure or pause ongoing compassionate use and/or expanded access programs in order to perform the controlled clinical trials required for regulatory approval and successful commercialization of brincidofovir, which could prompt adverse publicity or other disruptions related to current or potential participants in such programs.

If we fail to comply with the extensive legal and regulatory requirements affecting the health care industry, we could face increased costs, delays in the development of our product candidates, penalties and a loss of business.*

Our activities, and the activities of our collaborators, partners and third-party providers, are subject to extensive government regulation and oversight both in the United States and in foreign jurisdictions. The FDA and comparable agencies in other jurisdictions directly regulate many of our most critical business activities, including the conduct of preclinical and clinical studies, product manufacturing, advertising and promotion, product distribution, adverse event reporting and product risk management. States increasingly have been placing greater restrictions on the marketing practices of healthcare companies. In addition, pharmaceutical and biotechnology companies have been the target of lawsuits and investigations alleging violations of government regulations, including claims asserting submission of incorrect pricing information, impermissible off-label promotion of pharmaceutical products, payments intended to influence the referral of federal or state healthcare business, submission of false claims for government reimbursement, antitrust violations, violations of the Foreign Corrupt Practices Act, or violations related to environmental matters. Violations of governmental regulation may be punishable by criminal, civil and administrative sanctions, including fines and civil monetary penalties and exclusion from participation in government programs, including Medicare and Medicaid. In addition to penalties for violation of laws and regulations, we could be required to delay or terminate the development of our product candidates, or we could be required to repay amounts we received from government payers, or pay additional rebates and interest if we are found to have miscalculated the pricing information we have submitted to the government. Whether or not we have complied with the law, an investigation into alleged unlawful conduct could increase our expenses, damage our reputation, divert management time and attention and adversely affect our business.

Our future success depends on our ability to retain key executives and to attract, retain and motivate qualified personnel.*

We are highly dependent on the principal members of our executive team. While we have entered into employment agreements or offer letters with each of our executive officers, any of them could leave our employment at any time, as all of our employees are “at will” employees. To help attract, retain, and motivate qualified employees, we use share-based incentive awards such as employee stock options and restricted stock units. Due to the decline in our stock price that occurred in December 2015, a large percentage of the options held by our employees are underwater. As of September 30, 2018, approximately 96% of all outstanding options had an exercise price above the closing price of the stock on that date. As a result, the current situation provides a considerable challenge to maintaining employee motivation, as well as creating a serious threat to retention until a recovery commences. If our share-based compensation ceases to be viewed as a valuable benefit, our ability to attract, retain, and motivate employees could be weakened, which could harm our results of operations.

We do not maintain “key person” insurance for any of our executives or other employees. Recruiting and retaining other qualified employees for our business, including scientific and technical personnel, will also be critical to our success. There is currently a shortage of appropriately skilled executives in our industry, which is likely to continue. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. As a result, competition for skilled personnel is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. In addition, failure of any of our clinical studies may make it more challenging to recruit and retain qualified personnel. The inability to recruit or loss of the services of any executive or key employee may adversely affect the progress of our research, development and commercialization objectives.

In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us, which could also adversely affect the progress of our research, development and commercialization objectives.

Potential product liability lawsuits against us could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop.

The use of our product candidates, including brincidofovir, in clinical studies and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, health care providers, pharmaceutical companies or others selling or otherwise coming into contact with our products.

On occasion, large judgments have been awarded in class action lawsuits based on drugs that had unanticipated adverse effects. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation and significant negative media attention;
- withdrawal of participants from our clinical studies;
- significant costs to defend the related litigation and related litigation;
- distraction of management's attention from our primary business;
- substantial monetary awards to patients or other claimants;
- inability to commercialize our product candidates, including brincidofovir; and
- decreased demand for our product candidates, if approved for commercial sale.

We currently carry \$15 million in product liability insurance covering our clinical trials. Our current product liability insurance coverage may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and in the future we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If and when we obtain marketing approval for our product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. A successful product liability claim or series of claims brought against us could cause our stock price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business.

Risks associated with expanding our operations to Europe could adversely affect our business.*

We currently have limited operations in Europe and plan to expand the scope of development activities taking place there. We have limited experience with conducting activities outside of the United States. International operations and business expansion plans are subject to numerous additional risks, including:

- multiple, conflicting and changing laws and regulations such as tax laws, privacy regulations, export and import restrictions, employment, immigration and labor laws, regulatory requirements, and other governmental approvals, permits and licenses;
- difficulties in staffing and managing foreign operations;
- risks associated with obtaining and maintaining, or the failure to obtain or maintain, regulatory approvals for the sale or use of our products in various countries;
- complexities associated with managing government payer systems, multiple payer-reimbursement regimes or patient self-pay systems and price controls;
- financial risks, such as longer payment cycles, difficulty enforcing contracts and collecting accounts receivable and exposure to foreign currency exchange rate fluctuations;
- general political and economic conditions in the countries we operate in, including terrorism and political unrest, curtailment of trade and other business restrictions;
- regulatory and compliance risks that relate to maintaining accurate information and control over activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act, its books and records provisions or its anti-bribery provisions, or similar anti-bribery or anti-corruption laws and regulations.

Any of these risks, if encountered, could significantly increase our costs of operating internationally, prevent us from operating in certain jurisdictions, or otherwise significantly harm our future international expansion and operations, which could have a material adverse effect on our business, financial condition and results of operations.

Risks Related To Our Common Stock

The market price of our common stock is likely to be volatile, and you may not be able to resell your shares at or above your purchase price.*

Prior to our initial public offering (IPO) in 2013, there was no public market for our common stock. The trading price of our common stock has been volatile, and is likely to continue to be volatile for the foreseeable future. Our stock price is subject to wide fluctuations in response to a variety of factors, including the following:

- results of clinical trials of our product candidates or those of our competitors;
- any delay in filing an application for any of our product candidates and any adverse development or perceived adverse development with respect to regulatory review of that application;

- failure to successfully develop and commercialize our product candidates, including brincidofovir;
- termination of any of our license or collaboration agreements;
- any agency or judicial enforcement actions against us;
- inability to obtain additional funding;
- regulatory or legal developments in the United States and other countries applicable to our product candidates;
- adverse regulatory decisions;
- changes in the structure of healthcare payment systems;
- inability to obtain adequate product supply for our product candidates, or the inability to do so at acceptable prices;
- introduction of new products, services or technologies by our competitors;
- failure to meet or exceed financial projections we provide to the public;
- failure to meet or exceed the estimates and projections of the investment community;
- changes in the market valuations of similar companies;
- market conditions in the pharmaceutical and biotechnology sectors, and the issuance of new or changed securities analysts' reports or recommendations;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
- significant lawsuits (including patent or stockholder litigation), and disputes or other developments relating to proprietary rights (including patents, litigation matters and our ability to obtain patent protection for our technologies);
- additions or departures of key scientific or management personnel;
- sales of our common stock by us or our stockholders in the future;
- trading volume of our common stock;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

In addition, the stock market in general, and The Nasdaq Global Market in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.*

Based upon shares of common stock outstanding as of September 30, 2018, our executive officers, directors, 5% stockholders (known to us through available information) and their affiliates beneficially owned approximately 42% of our voting stock. Therefore, these stockholders have the ability to substantially influence us through this ownership position. For example, these stockholders, if they choose to act together, may be able to influence the election of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This concentration of voting power could delay or prevent an acquisition of our company on terms that other stockholders may desire.

Failure to establish and maintain adequate finance infrastructure and accounting systems and controls could impair our ability to comply with the financial reporting and internal controls requirements for publicly traded companies.*

As a public company, we operate in an increasingly demanding regulatory environment, which requires us to comply with the Sarbanes-Oxley Act of 2002, and the related rules and regulations of the Securities and Exchange Commission, expanded disclosure requirements, accelerated reporting requirements and more complex accounting rules. Company responsibilities required by the Sarbanes-Oxley Act include establishing and maintaining corporate oversight and adequate internal control over financial reporting and disclosure controls and procedures. Effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent financial fraud.

Our compliance with Section 404 of the Sarbanes-Oxley Act has required and will continue to require that we incur substantial accounting expense and expend significant management efforts. In this or future years, our testing, or the subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls that we would be required to remediate in a timely manner so as to be able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act each year. If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner each year, we could be subject to sanctions or investigations by the Securities and Exchange Commission, The Nasdaq Stock Market or other regulatory authorities which would require additional financial and management resources and could adversely affect the market price of our common stock. Furthermore, if we cannot provide reliable financial reports or prevent fraud, our business and results of operations could be harmed and investors could lose confidence in our reported financial information.

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. Such 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 2013 Equity Incentive Plan (the 2013 Plan), our management is authorized to grant stock options to our employees, directors and consultants. The number of shares available for future grant under our 2013 Plan will automatically increase on January 1st each year, through January 1, 2023, by an amount equal to 4.0% of all shares of our capital stock outstanding as of December 31st of the preceding calendar year, subject to the ability of our board of directors to take action to reduce the size of such increase in any given year. In addition, our board of directors may grant or provide for the grant of rights to purchase shares of our common stock pursuant to the terms of our 2013 Employee Stock Purchase Plan (ESPP). The number of shares of our common stock reserved for issuance under our ESPP will automatically increase on January 1st each year, through January 1, 2023, by an amount equal to the lesser of 422,535 shares or one percent of all shares of our capital stock outstanding as of December 31st of the preceding calendar year, subject to the ability of our board of directors to take action to reduce the size of such increase in any given year. Unless our board of directors elects not to increase the number of shares underlying our 2013 Plan and ESPP each year, our stockholders may experience additional dilution, which could cause our stock price to fall.

We have broad discretion in the use of the net proceeds from our financing transactions and may not use them effectively.

Our management has broad discretion in the application of the net proceeds from our financing transactions. Because of the number and variability of factors that will determine our use of the net proceeds from our financing transactions, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we have invested the net proceeds from our financing transactions in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders.

Volatility in our stock price could subject us to securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because pharmaceutical companies have experienced significant stock price volatility in recent years, and also because our stock price decreased significantly following announcement of results from our Phase 3 SUPPRESS trial. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

The recently passed comprehensive tax reform bill could adversely affect our business and financial condition.*

On December 22, 2017, President Trump signed into law the Tax Act which significantly revises the Internal Revenue Code of 1986, as amended. The Tax Act, among other things, contains significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limitation of the tax deduction for interest expense to 30% of adjusted earnings (except for certain small businesses), limitation of the deduction for net operating losses to 80% of current year taxable income and elimination of net operating loss carrybacks, one time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, elimination of U.S. tax on foreign earnings (subject to certain important exceptions), immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifying or repealing many business deductions and credits. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the Tax Act is uncertain and our business and financial condition could be adversely affected. In addition, it is uncertain if and to what extent various states will conform to the Tax Act. The impact of this tax reform on holders of our common stock is also uncertain and could be adverse. We urge our stockholders to consult with their legal and tax advisors with respect to this legislation and the potential tax consequences of investing in or holding our common stock.

Our effective tax rate may fluctuate, and we may incur obligations in tax jurisdictions in excess of accrued amounts.*

Our effective tax rate is derived from a combination of applicable tax rates in the various places that we operate. In preparing our financial statements, we estimate the amount of tax that will become payable in each of such places. Nevertheless, our effective tax rate may be different than experienced in the past due to numerous factors, including passage of the Tax Act, the results of examinations and audits of our tax filings, our inability to secure or sustain acceptable agreements with tax authorities, changes in accounting for income taxes and changes in tax laws. Any of these factors could cause us to experience an effective tax rate significantly different from previous periods or our current expectations and may result in tax obligations in excess of amounts accrued in our financial statements.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.*

Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an “ownership change,” generally defined as a greater than 50 percent change (by value) in its equity ownership over a three year period, the corporation’s ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes (such as research tax credits) to offset its post-change income may be limited. We have determined that a Section 382 ownership change occurred in 2002 and 2007 resulting in limitations of at least \$64,000 and \$762,000, respectively, of losses incurred prior to the respective ownership change dates. In addition, we have determined that another Section 382 ownership change occurred in 2013 with our IPO, our most recent private placement and other transactions that have occurred since 2007, resulting in a limitation of at least \$6.7 million of losses incurred prior to the ownership change date. We may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership. Furthermore, under the Tax Act, federal net operating losses incurred in 2018 and in future years may be carried forward indefinitely, but the deductibility of such federal net operating losses is limited. It is uncertain if and to what extent various states will conform to the Tax Act. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to offset United States federal taxable income may be subject to limitations, which could potentially result in increased future tax liability.

Because we do not anticipate paying any cash dividends on our common stock in the foreseeable future, capital appreciation, if any, would be your sole source of gain.*

We have never declared or paid any cash dividends on our common stock. We currently anticipate that we will retain any future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. As a result, capital appreciation, if any, of our common stock would be your sole source of gain on an investment in our common stock for the foreseeable future.

Provisions in our corporate charter documents and under Delaware law could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders and may prevent attempts by our stockholders to replace or remove our current management.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders and may prevent attempts by our stockholders to replace or remove our current management. These provisions include:

- authorizing the issuance of “blank check” preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval which could be used to institute a “poison pill” that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors;
- allowing the authorized number of our directors to be changed only by resolution of our board of directors;
- limiting the removal of directors;
- creating a staggered board of directors;
- requiring that stockholder actions must be effected at a duly called stockholder meeting and prohibiting stockholder actions by written consent;
- eliminating the ability of stockholders to call a special meeting of stockholders; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at duly called stockholder meetings.

The amendment of any of these provisions, with the exception of the ability of our board of directors to issue shares of preferred stock and designate any rights, preferences and privileges thereto, would require the affirmative vote of the holders of at least 66 2/3 percent of the voting power of all of our then outstanding common stock.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, we are subject to Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with an interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder, unless such transactions are approved by our board of directors. This provision could have the effect of delaying or preventing a change of control, whether or not it is desired by or beneficial to our stockholders. Further, other provisions of Delaware law may also discourage, delay or prevent someone from acquiring us or merging with us.

Risks Related to Information Technology

Significant disruptions of information technology systems or breaches of data security could adversely affect our business.

Our business is increasingly dependent on critical, complex, and interdependent information technology (IT) systems, including Internet-based systems, to support business processes as well as internal and external communications. The size and complexity of our IT systems make us potentially vulnerable to IT system breakdowns, malicious intrusion, and computer viruses, which may result in the impairment of our ability to operate our business effectively.

In addition, our systems are potentially vulnerable to data security breaches-whether by employees or others-which may expose sensitive data to unauthorized persons. Such data security breaches could lead to the loss of trade secrets or other intellectual property, or could lead to the public exposure of personal information (including sensitive personal information) of our employees, clinical trial patients, customers, business partners and others.

Any such disruption or security breach could result in legal proceedings, liability under laws that protect the privacy of personal information, regulatory penalties, disruptions to our operations and collaborations, and damage to our reputation, which could harm our business and results of operations.

*Increasing use of social media could give rise to liability, breaches of data security, or reputational damage.**

We and our employees are increasingly utilizing social media tools as a means of communication both internally and externally. Despite our efforts to monitor evolving social media communication guidelines and comply with applicable rules, there is risk that the use of social media by us or our employees to communicate about our products or business may cause us to be found in violation of applicable laws and regulations. In addition, our employees may knowingly or inadvertently make use of social media in ways that may not comply with our social media policy or other legal or contractual requirements, which may give rise to liability, lead to the loss of trade secrets or other intellectual property, or result in public exposure of personal information of our employees, clinical trial patients, customers, and others. Furthermore, negative posts or comments about us or our products in social media could seriously damage our reputation, brand image, and goodwill.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

The following exhibits are filed as part of this report:

Number	Description
3.1(1)	Amended and Restated Certificate of Incorporation of the Registrant.
3.2(1)	Amended and Restated Bylaws of the Registrant.
4.1(2)	Form of Common Stock Certificate of the Registrant.
10.1*(3)	Contract modification No. 52, dated July 11, 2018, to the contract by and between the Registrant and the Biomedical Advanced Research and Development Authority of the United States Department of Health and Human Services dated February 16, 2011, as amended.
10.2	Contract modification No. 53, dated September 6, 2018, to the contract by and between the Registrant and the Biomedical Advanced Research and Development Authority of the United States Department of Health and Human Services dated February 16, 2011, as amended.
10.3	Chimerix, Inc. Officer Severance Benefit Plan, as amended.
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
32.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. Section 1350, as adopted pursuant Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

* Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the SEC.

(1) Incorporated by reference to Chimerix, Inc.'s Current Report on Form 8-K (No. 001-35867), filed with the SEC on April 16, 2013.

(2) Incorporated by reference to Chimerix, Inc.'s Registration Statement on Form S-1 (No. 333-187145), as amended.

(3) Incorporated by reference to Chimerix, Inc.'s Quarterly Report on Form 10-Q (No. 001-35867), filed with the SEC on August 8, 2018.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1 2
2. AMENDMENT/MODIFICATION NO 0053	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ NO N/A.		5. PROJECT NO (if applicable)
6. ISSUED BY CODE ASPR-BARDA ASPR-BARDA 200 Independence Ave., S.W. Room 640-G Washington DC 20201		7. ADMINISTERED BY (if other than line item 6) CODE ASPR-BARDA 330 Independence Ave., SW, Rm G640 Washington DC 20201		ASPR-BARDA02
8. NAME AND ADDRESS OF CONTRACTOR (No, street, county, State and ZIP Code) CHIMERIX, INC. 1377270 CHIMERIX, INC. 2505 MERIDIAN P 2505 MERIDIAN PKWY STE 340 DURHAM NC 277135246		(x)	9A AMENDMENT OF SOLICITATION NO.	
CODE 1377270			9B DATED (SEE ITEM 11)	
FACILITY CODE		X	10A MODIFICATION OF CONTRACT/ORDER NO HHSO100201100013C	
			10B DATED (SEE ITEM 13) 02/16/2011	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified of receipt of Offers is extended. is not extended
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one or the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (if required)
N/A.

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO IN ITEM 10A
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF
X	D. OTHER (Specify type of modification and authority) Bilateral: Mutual Agreement of the Parties.

E. IMPORTANT: Contractor is not. is required to sign this document and return 0 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible)

Tax ID Number: 33-0903395

DUNS Number: 121785997

A. The purpose of this modification is to incorporate the following changes into the contract:

1. The period of performance for Option 2/CLIN 0003 of Contract Number HHSO100201100013C is hereby changed from 1 September 2014 through 30 September 2018 to 1 September 2014 through 30 March 2019, at no additional cost to the Government. The total amount and scope of Option 2/CLIN 0003 of Contract Number HHSO100201100013C also remains unchanged.

2. The total amount, scope and period of performance of all other CLINs that are currently Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Michael Alrutz, SVP & General Counsel		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) ETHAN J. MUELLER	
15B. CONTRACTOR/OFFEROR /s/ Michael Alrutz <small>(Signature of person authorized to sign)</small>	15C. DATE SIGNED 9/6/18	16B. UNITED STATES OF AMERICA /s/ Ethan J. Mueller <small>(Signature of person authorized to sign)</small>	16C. DATE SIGNED 9/6/18

CONTINUATION SHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED HHSO100201100013C/0053	PAGE OF 2 2
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NAME OF OFFEROR OR CONTRACTOR

CHIMERIX, INC. 1377270

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>being performed under the contract remain unchanged. This modification does not exercise any unexercised Option CLINs under the contract and does not authorize any performance of efforts under any unexercised Option CLINs under the contract. In addition, the total amount, scope and period of performance of all unexercised Option CLINs under the contract remain unchanged. This modification also confirms that all activities under the base period of performance CLIN 0001 were completed as of 31 May 2013 and confirms that all activities under the Option 1/CLIN 0002 period of performance were completed as of 30 April 2015.</p> <p>B. This is no cost bilaterla modification. All other terms and conditions of Contract Number HHSO100201100013C remain unchanged.</p> <p>Period of Performance: 02/16/2011 to 03/30/2019</p>				

NSN 7540-152-8067 STANDARD FORM 336 (4-86)

Sponsored by GSA
FAR (48 CFR) 53.110

CHIMERIX, INC.

OFFICER SEVERANCE BENEFIT PLAN

APPROVED BY THE BOARD OF DIRECTORS: FEBRUARY 21, 2013

AMENDED BY THE BOARD OF DIRECTORS: DECEMBER 6, 2013

AMENDED BY THE COMPENSATION COMMITTEE: SEPTEMBER 6, 2018

Section 1. INTRODUCTION.

The Chimerix, Inc. Officer Severance Benefit Plan (the “*Plan*”) is hereby established effective February 21, 2013 (the “*Effective Date*”). The purpose of the Plan is to provide for the payment of severance benefits to eligible officers of Chimerix, Inc. (the “*Company*”) in the event that such officers become subject to involuntary or constructive employment terminations. This Plan shall supersede any severance benefit plan, policy or practice previously maintained by the Company, except for an individually negotiated employment contract or agreement between the Company and an officer. This Plan document also is the Summary Plan Description for the Plan.

For purposes of the Plan, the following terms are defined as follows:

(a) “*Affiliate*” means any corporation (other than the Company) in an “unbroken chain of corporations” beginning with the Company, if each of the corporations other than the last corporation in the unbroken chain owns stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain

(b) “*Base Salary*” means base pay (excluding incentive pay, premium pay, commissions, overtime, bonuses and other forms of variable compensation) as in effect prior to any reduction that would give rise to an officer’s right to resign for Good Reason.

(c) “*Board*” means the Board of Directors of the Company; provided, however, that if the Board has delegated authority to administer the Plan to the Compensation Committee of the Board, then “*Board*” shall also mean the Compensation Committee.

(d) “*Cause*” means, with respect to a particular officer, the occurrence of any of the following events: (i) such officer’s conviction of any felony or any crime involving fraud; (ii) such officer’s participation (whether by affirmative act or omission) in a fraud or felonious act against the Company and/or its Affiliates; (iii) conduct by such officer which, based upon a good faith and reasonable factual investigation by the Board, demonstrates such officer’s unfitness to serve; (iv) such officer’s violation of any statutory or fiduciary duty, or duty of loyalty owed to the Company and/or its Affiliates and which has a material adverse effect on the Company and/or its Affiliates; (v) such officer’s violation of state or federal law in connection with such officer’s performance of such officer’s job which has a material adverse effect on the Company and/or its Affiliates; (vi) breach of any material term of any contract between such officer and the Company and/or its Affiliates; or (vii) such officer’s violation of any material Company policy. The determination whether a termination is for Cause shall be made by the Plan Administrator in its sole and exclusive judgment and discretion.

(e) “*Change in Control*” means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events that also qualifies as a change in the ownership of the Company, a change in the effective control of the Company, or a change in the ownership of a substantial

1.

portion of the assets of the Company (as these events are defined in Treasury Regulations Section § 1.409A-3(i)(5), or as these definitions may later be modified by other regulatory pronouncements):

(1) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control will not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities, (C) on account of the acquisition of securities of the Company by any individual who is, on the Effective Date, either an executive officer or a Director (either, an "**Effective Date Investor**") and/or any entity in which an Effective Date Investor has a direct or indirect interest (whether in the form of voting rights or participation in profits or capital contributions) of more than 50% (collectively, the "**Effective Date Entities**") or on account of the Effective Date Entities continuing to hold shares that come to represent more than 50% of the combined voting power of the Company's then outstanding securities as a result of the conversion of any class of the Company's securities into another class of the Company's securities having a different number of votes per share pursuant to the conversion provisions set forth in the Company's Amended and Restated Certificate of Incorporation; or (D) solely because the level of Ownership held by any Exchange Act Person (the "**Subject Person**") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

(2) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than 50% of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than 50% of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction; *provided, however*, that a merger, consolidation or similar transaction will not constitute a Change in Control under this prong of the definition if the outstanding voting securities representing more than 50% of the combined voting power of the surviving Entity or its parent are owned by the Effective Date Entities;

(3) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; *provided, however*, that a sale, lease, exclusive license or other disposition of

all or substantially all of the consolidated assets of the Company and its Subsidiaries will not constitute a Change in Control under this prong of the definition if the outstanding voting securities representing more than 50% of the combined voting power of the acquiring Entity or its parent are owned by the Effective Date Entities; or

(4) individuals who, on the date the Plan is adopted by the Board, are members of the Board (the “*Incumbent Board*”) cease for any reason to constitute at least a majority of the members of the Board; *provided, however*, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member will, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing or any other provision of this Plan, the term Change in Control shall not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company. Once a Change in Control has occurred, no future events shall constitute a Change in Control for purposes of the Plan.

(a) “*Change in Control Period*” means the period commencing thirty (30) days prior to the Closing of a Change in Control and ending thirteen (13) months following the Closing of a Change in Control.

(b) “*Change in Control Termination*” means an Involuntary Termination that occurs within the Change in Control Period. For such purposes, if the events giving rise to an officer’s right to resign for Good Reason arise within the Change in Control Period, and the officer’s resignation occurs not later than thirty (30) days after the expiration of the Cure Period (as defined below), such termination shall be a Change in Control Termination.

(c) “*Closing*” means the initial closing of the Change in Control as defined in the definitive agreement executed in connection with the Change in Control. In the case of a series of transactions constituting a Change in Control, “*Closing*” means the first closing that satisfies the threshold of the definition for a Change in Control.

(d) “*COBRA*” means the Consolidated Omnibus Budget Reconciliation Act of 1985.

(e) “*Code*” means the Internal Revenue Code of 1986, as amended.

(f) “*Company*” means Chimerix, Inc. or, following a Change in Control, the surviving entity resulting from such event.

(g) “*Covered Termination*” means a Regular Termination or a Change in Control Termination.

(h) “*Director*” means a member of the Board.

(i) “*Eligible Officer*” means an officer (defined as an employee at the Vice President level or above) of the Company that meets the requirements to be eligible to receive Plan benefits as set forth in Section 2.

(j) “*Entity*” means a corporation, partnership, limited liability company or other entity.

(k) **“Exchange Act”** means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(l) **“Exchange Act Person”** means any natural person, Entity or “group” (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that “Exchange Act Person” will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to a registered public offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (v) any natural person, Entity or “group” (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company’s then outstanding securities.

(m) **“Good Reason”** for an officer’s resignation means the occurrence of any of the following events, conditions or actions taken by the Company without Cause and without such officer’s consent: (i) any material reduction of such officer’s duties, authority and responsibilities, relative to such officer’s duties, authority and responsibilities at the Company as in effect immediately prior to such reduction, (ii) a material reduction in such officer’s level of base salary other than in connection with a comparable reduction affecting all officers at the officer’s level, or (iii) a relocation of such officer’s principal place of employment that increases the officer’s one-way commute by more than fifty (50) miles from the location immediately prior to such relocation (other than reasonable business travel required as part of the job duties associated with such officer’s position); *provided, however*, that in each case above, in order for the officer’s resignation to be deemed to have been for Good Reason, the officer must first give the Company written notice of the action or omission giving rise to “Good Reason” within thirty (30) days after the first occurrence thereof; the Company must fail to reasonably cure such action or omission within thirty (30) days after receipt of such notice (the **“Cure Period”**), and the officer’s resignation must be effective not later than thirty (30) days after the expiration of such Cure Period.

(n) **“Involuntary Termination”** means a termination of employment that is due to: (1) a termination by the Company without Cause or (2) an officer’s resignation for Good Reason.

(o) **“Own,” “Owned,” “Owner,” “Ownership”** means a person or Entity will be deemed to “Own,” to have “Owned,” to be the “Owner” of, or to have acquired “Ownership” of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(p) **“Participation Agreement”** means an agreement between an officer and the Company in substantially the form of Appendix A attached hereto, and which may include such other terms as the Board deems necessary or advisable in the administration of the Plan.

(q) **“Plan Administrator”** means the Board prior to the Closing and the Representative upon and following the Closing.

(r) **“Representative”** means one or more members of the Board or other persons or entities designated by the Board prior to or in connection with a Change in Control that will have authority to administer and interpret the Plan upon and following the Closing as provided in Section 7(a).

(s) “**Regular Termination**” means an Involuntary Termination that is not a Change in Control Termination.

(t) “**Subsidiary**” means, with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

Section 2. ELIGIBILITY FOR BENEFITS.

(a) **Eligible Officer.** An officer of the Company is eligible to participate in the Plan if (i) the Board has designated such officer as eligible to participate in the Plan by providing such person with a Participation Agreement; (ii) such officer has signed and returned such Participation Agreement to the Company within the period specified therein; (iii) such officer’s employment with the Company terminates due to a Covered Termination; and (iv) such officer meets the other Plan eligibility requirements set forth in this Section 2. The determination of whether an officer is an Eligible Officer shall be made by the Plan Administrator, in its sole discretion, and such determination shall be binding and conclusive on all persons.

(b) **Release Requirement.** In order to be eligible to receive benefits under the Plan, the officer also must execute a general waiver and release in substantially the form attached hereto as Exhibit A (the “**Release**”), within the applicable time period set forth therein, but in no event more than fifty (50) days following the date of the applicable Covered Termination, and such Release must become effective in accordance with its terms. The Company, in its sole discretion, may modify the form of the Release to comply with applicable law and the specific terms of the Covered Termination, which may be incorporated into a termination agreement or other agreement with the officer.

(c) **Plan Benefits Reduced by Individual Agreement Severance Benefits.** Unless otherwise determined by the Plan Administrator in its discretion, an officer who otherwise is an Eligible Officer will receive reduced benefits under the Plan if the officer has executed an individually negotiated employment contract or agreement with the Company relating to severance benefits that is in effect on his or her termination date, in which case such officer’s severance benefit, if any, shall be governed by the terms of such individually negotiated employment contract or agreement and shall be governed by this Plan only to the extent that the reduction pursuant to Section 3(c) below does not entirely eliminate benefits under this Plan.

(d) **Exceptions to Benefit Entitlement.** An officer who otherwise is an Eligible Officer will not receive benefits under the Plan in the following circumstances, as determined by the Plan Administrator in its sole discretion:

(1) The officer voluntarily terminates employment with the Company without Good Reason, or terminates employment due to the officer’s death or disability. Voluntary terminations include, but are not limited to, resignation, retirement or failure to return from a leave of absence on the scheduled date.

(2) The officer voluntarily terminates employment with the Company in order to accept employment with another entity that is wholly or partly owned (directly or indirectly) by the Company or an Affiliate.

(3) The officer is offered an identical or substantially equivalent or comparable position with the Company or an Affiliate. For purposes of the foregoing, a “substantially equivalent or comparable position” is one that provides the officer substantially the same level of responsibility and compensation and would not give rise to the officer’s right to resign for Good Reason.

(4) The officer is offered immediate reemployment by a successor to the Company or an Affiliate or by a purchaser of the Company’s assets, as the case may be, following a Change in Control and the terms of such reemployment would not give rise to the officer’s right to resign for Good Reason. For purposes of the foregoing, “immediate reemployment” means that the officer’s employment with the successor to the Company or an Affiliate or the purchaser of its assets, as the case may be, results in uninterrupted employment such that the officer does not incur a lapse in pay or benefits as a result of the change in ownership of the Company or the sale of its assets.

(5) The officer is rehired by the Company or an Affiliate and recommences employment prior to the date benefits under the Plan are scheduled to commence.

Section 3. AMOUNT OF BENEFIT.

(a) **Severance Benefit.** Benefits under the Plan shall be provided to an Eligible Officer as set forth in the Participation Agreement.

(b) **Additional Benefits.** Notwithstanding the foregoing, the Company may, in its sole discretion, provide benefits to employees who are not Eligible Officers (“*Non-Eligible Employees*”) chosen by the Board, in its sole discretion, and the provision of any such benefits to a Non-Eligible Employee shall in no way obligate the Company to provide such benefits to any other Non-Eligible Employee, even if similarly situated. If benefits under the Plan are provided to a Non-Eligible Employee, references in the Plan to “Eligible Officer” (and similar references) shall be deemed to refer to such Non-Eligible Employee.

(c) **Certain Reductions.** The Company, in its sole discretion, shall have the authority to reduce an Eligible Officer’s severance benefits, in whole or in part, by any other severance benefits, pay and benefits provided during a period following written notice of a plant closing or mass layoff, pay and benefits in lieu of such notice, or other similar benefits payable to the Eligible Officer by the Company or an Affiliate that become payable in connection with the Eligible Officer’s termination of employment pursuant to (i) any applicable legal requirement, including, without limitation, the Worker Adjustment and Retraining Notification Act or any other similar state law, (ii) any individually negotiated employment contract or agreement or any other written employment or severance agreement with the Company, or (iii) any Company policy or practice providing for the Eligible Officer to remain on the payroll for a limited period of time after being given notice of the termination of the Eligible Officer’s employment, and the Plan Administrator shall so construe and implement the terms of the Plan. Any such reductions that the Company determines to make pursuant to this Section 3(c) shall be made such that any benefit under the Plan shall be reduced solely by any similar type of benefit under such legal requirement, agreement, policy or practice (*i.e.*, any cash severance benefits under the Plan shall be reduced solely by any cash payments or severance benefits under such legal requirement, agreement, policy or practice, and any continued insurance benefits under the Plan shall be reduced solely by any continued insurance benefits under such legal requirement, agreement, policy or practice). The Company’s decision to apply such reductions to the severance benefits of one Eligible

Officer and the amount of such reductions shall in no way obligate the Company to apply the same reductions in the same amounts to the severance benefits of any other Eligible Officer, even if similarly situated. In the Company's sole discretion, such reductions may be applied on a retroactive basis, with severance benefits previously paid being re-characterized as payments pursuant to the Company's statutory obligation.

(d) Parachute Payments. Any provision of the Plan to the contrary notwithstanding, if any payment or benefit an Eligible Officer would receive from the Company pursuant to the Plan or otherwise ("**Payment**") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "**Excise Tax**"), then such Payment will be equal to the Reduced Amount (defined below). The "**Reduced Amount**" will be either (1) the largest portion of the Payment that would result in no portion of the Payment (after reduction) being subject to the Excise Tax or (2) the entire Payment, whichever amount after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate, net of the maximum reduction in federal income taxes which could be obtained from a deduction of such state and local taxes), results in such Eligible Officer's receipt, on an after-tax basis, of the greatest amount of the Payment. If a reduction in the Payment is to be made so that the Payment equals the Reduced Amount, (x) the Payment will be paid only to the extent permitted under the Reduced Amount alternative, and the Eligible Officer will have no rights to any additional payments and/or benefits constituting the Payment, and (y) reduction in payments and/or benefits will occur in the following order: (1) reduction of cash payments; (2) cancellation of accelerated vesting of equity awards other than stock options; (3) cancellation of accelerated vesting of stock options; and (4) reduction of other benefits paid to the Eligible Officer. In the event that acceleration of vesting of equity award compensation is to be reduced, such acceleration of vesting will be cancelled in the reverse order of the date of grant of the Eligible Officer's equity awards. In no event will the Company or any stockholder be liable to any Eligible Officer for any amounts not paid as a result of the operation of this Section 3(d). The professional firm engaged by the Company for general tax purposes as of the day prior to the Closing will perform the foregoing calculations. If the tax firm so engaged by the Company is serving as accountant or auditor for the acquirer, the Company will appoint a nationally recognized tax firm to make the determinations required hereunder. The Company will bear all expenses with respect to the determinations by such firm required to be made hereunder. If the tax firm determines that no Excise Tax is payable with respect to a Payment, either before or after the application of the Reduced Amount, it will furnish the Company and each Eligible Officer with documentation that no Excise Tax is reasonably likely to be imposed with respect to such Payment. Any good faith determinations of the tax firm made hereunder will be final, binding and conclusive upon the Company and the Eligible Officers.

Section 4. RETURN OF COMPANY PROPERTY.

An Eligible Officer will not be entitled to any severance benefit under the Plan unless and until the Eligible Officer returns all Company Property. For this purpose, "Company Property" means all Company documents (and all copies thereof) and other Company property which the Eligible Officer had in his or her possession at any time, including, but not limited to, Company files, notes, drawings, records, plans, forecasts, reports, studies, analyses, proposals, agreements, financial information, research and development information, sales and marketing information, operational and personnel information, specifications, code, software, databases, computer-recorded information, tangible property and equipment (including, but not limited to, computers, facsimile machines, mobile telephones, servers), credit cards, entry cards, identification badges and keys; and any materials of any kind which contain or embody any proprietary or confidential information of the Company (and all reproductions thereof in whole or in part).

Section 5. TIME OF PAYMENT AND FORM OF BENEFIT.

The Company reserves the right in the Participation Agreement to specify whether severance payments under the Plan will be paid in a single sum, in installments, or in any other form and to determine the timing of such payments. All such payments under the Plan will be subject to applicable withholding for federal, state and local taxes. If an Eligible Officer is indebted to the Company on his or her termination date, the Company reserves the right to offset any severance payments under the Plan by the amount of such indebtedness. All severance benefits provided under the Plan are intended to satisfy the requirements for an exemption from application of Section 409A of the Code to the maximum extent that an exemption is available and any ambiguities herein shall be interpreted accordingly; provided, however, that to the extent such an exemption is not available, the severance benefits provided under the Plan are intended to comply with the requirements of Section 409A to the extent necessary to avoid adverse personal tax consequences and any ambiguities herein shall be interpreted accordingly.

Notwithstanding anything to the contrary set forth herein, any payments and benefits provided under the Plan that constitute “deferred compensation” within the meaning of Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect (collectively “**Section 409A**”) shall not commence in connection with an Eligible Officer’s termination of employment unless and until the Eligible Officer has also incurred a “separation from service,” as such term is defined in Treasury Regulations Section 1.409A-1(h) (“**Separation from Service**”), unless the Company reasonably determines that such amounts may be provided to the Eligible Officer without causing the Eligible Officer to incur the adverse personal tax consequences under Section 409A.

It is intended that (i) each installment of any benefits payable under the Plan to an Eligible Officer be regarded as a separate “payment” for purposes of Treasury Regulations Section 1.409A-2(b)(2)(i), (ii) all payments of any such benefits under the Plan satisfy, to the greatest extent possible, the exemptions from the application of Section 409A provided under Treasury Regulations Sections 1.409A-1(b)(4) and 1.409A-1(b)(9)(iii), and (iii) any such benefits consisting of COBRA premiums also satisfy, to the greatest extent possible, the exemption from the application of Section 409A provided under Treasury Regulations Section 1.409A-1(b)(9)(v). However, if the Company determines that any such benefits payable under the Plan constitute “deferred compensation” under Section 409A and the Eligible Officer is a “specified employee” of the Company, as such term is defined in Section 409A(a)(2)(B)(i), then, solely to the extent necessary to avoid the imposition of the adverse personal tax consequences under Section 409A, (A) the timing of such benefit payments shall be delayed until the earlier of (1) the date that is six (6) months and one (1) day after the Eligible Officer’s Separation from Service and (2) the date of the Eligible Officer’s death (such applicable date, the “**Delayed Initial Payment Date**”), and (B) the Company shall (1) pay the Eligible Officer a lump sum amount equal to the sum of the benefit payments that the Eligible Officer would otherwise have received through the Delayed Initial Payment Date if the commencement of the payment of the benefits had not been delayed pursuant to this paragraph and (2) commence paying the balance, if any, of the benefits in accordance with the applicable payment schedule.

In no event shall payment of any benefits under the Plan be made prior to an Eligible Officer’s termination date or prior to the effective date of the Release. If the Company determines that any payments or benefits provided under the Plan constitute “deferred compensation” under Section 409A, and the Eligible Officer’s Separation from Service occurs at a time during the calendar year when the Release could become effective in the calendar year following the calendar year in which the Eligible Officer’s Separation from Service occurs, then regardless of when the Release is returned to the Company and becomes effective, the Release will not be deemed effective any earlier than the latest permitted effective date (the “**Release Deadline**”). If the Company determines that any payments or benefits provided under the Plan constitute

“deferred compensation” under Section 409A, then except to the extent that payments may be delayed until the Delayed Initial Payment Date pursuant to the preceding paragraph, on the first regular payroll date following the effective date of an Eligible Officer’s Release, the Company shall (1) pay the Eligible Officer a lump sum amount equal to the sum of the benefit payments that the Eligible Officer would otherwise have received through such payroll date but for the delay in payment related to the effectiveness of the Release and (2) commence paying the balance, if any, of the benefits in accordance with the applicable payment schedule.

All severance payments under the Plan shall be subject to applicable withholding for federal, state and local taxes. If an Eligible Officer is indebted to the Company at his or her termination date, the Company reserves the right to offset any severance payments under the Plan by the amount of such indebtedness.

Section 6. REEMPLOYMENT.

In the event of an Eligible Officer’s reemployment by the Company during the period of time in respect of which severance benefits pursuant to the Plan have been paid, the Company, in its sole and absolute discretion, may require such Eligible Officer to repay to the Company all or a portion of such severance benefits as a condition of reemployment.

Section 7. RIGHT TO INTERPRET AND ADMINISTER PLAN; AMENDMENT AND TERMINATION.

(a) Interpretation and Administration. Prior to the Closing, the Board shall be the Plan Administrator and shall have the exclusive discretion and authority to establish rules, forms, and procedures for the administration of the Plan and to construe and interpret the Plan and to decide any and all questions of fact, interpretation, definition, computation or administration arising in connection with the operation of the Plan, including, but not limited to, the eligibility to participate in the Plan and amount of benefits paid under the Plan. The rules, interpretations, computations and other actions of the Board shall be binding and conclusive on all persons. Upon and after the Closing, the Plan will be interpreted and administered in good faith by the Representative who shall be the Plan Administrator during such period. All actions taken by the Representative in interpreting the terms of the Plan and administering the Plan upon and after the Closing will be final and binding on all Eligible Officers. Any references in this Plan to the “Board” or “Plan Administrator” with respect to periods following the Closing shall mean the Representative.

(b) Amendment. The Plan Administrator reserves the right to amend this Plan at any time; *provided, however,* that any amendment of the Plan will not be effective as to a particular officer who is or may be adversely impacted by such amendment or termination and has an effective Participation Agreement without the written consent of such officer. Any action amending the Plan shall be in writing and executed by the Company’s Chairman of the Board (prior to the Closing) or the Representative (following the Closing).

(c) Termination. The Plan will automatically terminate upon the earliest of: (i) on December 6, 2021, if the Closing has not occurred on or prior to such date, or (ii) following satisfaction of all the Company’s obligations under the Plan.

Section 8. NO IMPLIED EMPLOYMENT CONTRACT.

The Plan shall not be deemed (i) to give any officer or other person any right to be retained in the employ of the Company or (ii) to interfere with the right of the Company to discharge any officer or other person at any time, with or without cause, which right is hereby reserved.

Section 9. LEGAL CONSTRUCTION.

This Plan is intended to be governed by and shall be construed in accordance with the Employee Retirement Income Security Act of 1974 (“*ERISA*”) and, to the extent not preempted by ERISA, the laws of the State of North Carolina.

Section 10. CLAIMS, INQUIRIES AND APPEALS.

(a) Applications for Benefits and Inquiries. Any application for benefits, inquiries about the Plan or inquiries about present or future rights under the Plan must be submitted to the Plan Administrator in writing by an applicant (or his or her authorized representative). The Plan Administrator is:

Chimerix, Inc.
Board of Directors
2505 Meridian Parkway
Suite 340
Durham, NC 27713

(b) Denial of Claims. In the event that any application for benefits is denied in whole or in part, the Plan Administrator must provide the applicant with written or electronic notice of the denial of the application, and of the applicant’s right to review the denial. Any electronic notice will comply with the regulations of the U.S. Department of Labor. The notice of denial will be set forth in a manner designed to be understood by the applicant and will include the following:

- (1) the specific reason or reasons for the denial;
- (2) references to the specific Plan provisions upon which the denial is based;
- (3) a description of any additional information or material that the Plan Administrator needs to complete the review and an explanation of why such information or material is necessary; and
- (4) an explanation of the Plan’s review procedures and the time limits applicable to such procedures, including a statement of the applicant’s right to bring a civil action under Section 502(a) of ERISA following a denial on review of the claim, as described in Section 10(d) below.

This notice of denial will be given to the applicant within ninety (90) days after the Plan Administrator receives the application, unless special circumstances require an extension of time, in which case, the Plan Administrator has up to an additional ninety (90) days for processing the application. If an extension of time for processing is required, written notice of the extension will be furnished to the applicant before the end of the initial ninety (90) day period.

This notice of extension will describe the special circumstances necessitating the additional time and the date by which the Plan Administrator is to render its decision on the application.

(c) Request for a Review. Any person (or that person's authorized representative) for whom an application for benefits is denied, in whole or in part, may appeal the denial by submitting a request for a review to the Plan Administrator within sixty (60) days after the application is denied. A request for a review shall be in writing and shall be addressed to:

Chimerix, Inc.
Board of Directors
2505 Meridian Parkway
Suite 340
Durham, NC 27713

A request for review must set forth all of the grounds on which it is based, all facts in support of the request and any other matters that the applicant feels are pertinent. The applicant (or his or her representative) shall have the opportunity to submit (or the Plan Administrator may require the applicant to submit) written comments, documents, records, and other information relating to his or her claim. The applicant (or his or her representative) shall be provided, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to his or her claim. The review shall take into account all comments, documents, records and other information submitted by the applicant (or his or her representative) relating to the claim, without regard to whether such information was submitted or considered in the initial benefit determination.

(d) Decision on Review. The Plan Administrator will act on each request for review within sixty (60) days after receipt of the request, unless special circumstances require an extension of time (not to exceed an additional sixty (60) days), for processing the request for a review. If an extension for review is required, written notice of the extension will be furnished to the applicant within the initial sixty (60) day period. This notice of extension will describe the special circumstances necessitating the additional time and the date by which the Plan Administrator is to render its decision on the review. The Plan Administrator will give prompt, written or electronic notice of its decision to the applicant. Any electronic notice will comply with the regulations of the U.S. Department of Labor. In the event that the Plan Administrator confirms the denial of the application for benefits in whole or in part, the notice will set forth, in a manner calculated to be understood by the applicant, the following:

- (1) the specific reason or reasons for the denial;
- (2) references to the specific Plan provisions upon which the denial is based;
- (3) a statement that the applicant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to his or her claim; and
- (4) a statement of the applicant's right to bring a civil action under Section 502(a) of ERISA.

(e) Rules and Procedures. The Plan Administrator will establish rules and procedures, consistent with the Plan and with ERISA, as necessary and appropriate in carrying out its responsibilities in

reviewing benefit claims. The Plan Administrator may require an applicant who wishes to submit additional information in connection with an appeal from the denial of benefits to do so at the applicant's own expense.

(f) Exhaustion of Remedies. No legal action for benefits under the Plan may be brought until the applicant (i) has submitted a written application for benefits in accordance with the procedures described by Section 10(a) above, (ii) has been notified by the Plan Administrator that the application is denied, (iii) has filed a written request for a review of the application in accordance with the appeal procedure described in Section 10(c) above, and (iv) has been notified that the Plan Administrator has denied the appeal. Notwithstanding the foregoing, if the Plan Administrator does not respond to an Eligible Officer's claim or appeal within the relevant time limits specified in this Section 10, the Eligible Officer may bring legal action for benefits under the Plan pursuant to Section 502(a) of ERISA.

Section 11. BASIS OF PAYMENTS TO AND FROM PLAN.

The Plan shall be unfunded, and all cash payments under the Plan shall be paid only from the general assets of the Company.

Section 12. OTHER PLAN INFORMATION.

(a) Employer and Plan Identification Numbers. The Employer Identification Number assigned to the Company (which is the "Plan Sponsor" as that term is used in ERISA) by the Internal Revenue Service is 33-0903395. The Plan Number assigned to the Plan by the Plan Sponsor pursuant to the instructions of the Internal Revenue Service is 510.

(b) Ending Date for Plan's Fiscal Year. The date of the end of the fiscal year for the purpose of maintaining the Plan's records is December 31.

(c) Agent for the Service of Legal Process. The agent for the service of legal process with respect to the Plan is:

Chimerix, Inc.
2505 Meridian Parkway
Suite 340
Durham, NC 27713

In addition, service of legal process may be made upon the Plan Administrator.

(d) Plan Sponsor. The "Plan Sponsor" is:

Chimerix, Inc.
2505 Meridian Parkway
Suite 340
Durham, NC 27713
(919) 806-1074

(e) Plan Administrator. The Plan Administrator is the Board prior to the Closing and the Representative upon and following the Closing. The Plan Administrator's contact information is:

Chimerix, Inc.

Board of Directors or Representative
2505 Meridian Parkway
Suite 340
Durham, NC 27713
(919) 806-1074

The Plan Administrator is the named fiduciary charged with the responsibility for administering the Plan.

Section 13. STATEMENT OF ERISA RIGHTS.

Participants in this Plan (which is a welfare benefit plan sponsored by Chimerix, Inc.) are entitled to certain rights and protections under ERISA. If you are an Eligible Officer, you are considered a participant in the Plan and, under ERISA, you are entitled to:

(a) Receive Information About Your Plan and Benefits.

(1) Examine, without charge, at the Plan Administrator's office and at other specified locations, such as worksites, all documents governing the Plan and a copy of the latest annual report (Form 5500 Series), if applicable, filed by the Plan with the U.S. Department of Labor and available at the Public Disclosure Room of the Employee Benefits Security Administration;

(2) Obtain, upon written request to the Plan Administrator, copies of documents governing the operation of the Plan and copies of the latest annual report (Form 5500 Series), if applicable, and an updated (as necessary) Summary Plan Description. The Administrator may make a reasonable charge for the copies; and

(3) Receive a summary of the Plan's annual financial report, if applicable. The Plan Administrator is required by law to furnish each Eligible Officer with a copy of this summary annual report.

(b) Prudent Actions by Plan Fiduciaries. In addition to creating rights for Plan Eligible Officers, ERISA imposes duties upon the people who are responsible for the operation of the employee benefit plan. The people who operate the Plan, called "fiduciaries" of the Plan, have a duty to do so prudently and in the interest of you and other Eligible Officers and beneficiaries. No one, including your employer, your union or any other person, may fire you or otherwise discriminate against you in any way to prevent you from obtaining a Plan benefit or exercising your rights under ERISA.

(c) Enforce Your Rights. If your claim for a Plan benefit is denied or ignored, in whole or in part, you have a right to know why this was done, to obtain copies of documents relating to the decision without charge, and to appeal any denial, all within certain time schedules.

Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request a copy of Plan documents or the latest annual report from the Plan, if applicable, and do not receive them within thirty (30) days, you may file suit in a Federal court. In such a case, the court may require the Plan Administrator to provide the materials and pay you up to \$110 a day until you receive the materials, unless the materials were not sent because of reasons beyond the control of the Plan Administrator.

If you have a claim for benefits which is denied or ignored, in whole or in part, you may file suit in a state or Federal court.

If you are discriminated against for asserting your rights, you may seek assistance from the U.S. Department of Labor, or you may file suit in a Federal court. The court will decide who should pay court costs and legal fees. If you are successful, the court may order the person you have sued to pay these costs and fees. If you lose, the court may order you to pay these costs and fees, for example, if it finds your claim is frivolous.

(d) Assistance with Your Questions. If you have any questions about the Plan, you should contact the Plan Administrator. If you have any questions about this statement or about your rights under ERISA, or if you need assistance in obtaining documents from the Plan Administrator, you should contact the nearest office of the Employee Benefits Security Administration, U.S. Department of Labor, listed in your telephone directory or the Division of Technical Assistance and Inquiries, Employee Benefits Security Administration, U.S. Department of Labor, 200 Constitution Avenue N.W., Washington, D.C. 20210. You may also obtain certain publications about your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration.

APPENDIX A

CHIMERIX, INC.

OFFICER SEVERANCE BENEFIT PLAN

PARTICIPATION AGREEMENT

Name: _____

Section 1. ELIGIBILITY.

You have been designated as eligible to participate in the Chimerix, Inc. Officer Severance Benefit Plan (the “*Plan*”), a copy of which is attached as Annex I to this Participation Agreement (the “*Agreement*”). Capitalized terms not explicitly defined in this Agreement but defined in the Plan shall have the same definitions as in the Plan.

Section 2. SEVERANCE BENEFITS

Subject to the terms of the Plan and Section 3 of this Agreement, if you are terminated in a Covered Termination, and meet all the other eligibility requirements set forth in the Plan, including, without limitation, executing the required Release within the applicable time period set forth therein and provided that such Release becomes effective in accordance with its terms, you will receive the severance benefits set forth in this Section 2. Notwithstanding the schedule for provision of severance benefits as set forth below, the provision of any severance benefits under this Section 2 is subject to any delay in payment that may be required under Section 5 of the Plan.

(a) Regular Termination. Upon a Regular Termination, you shall be eligible to receive the following severance benefits.

(1) Cash Severance Benefit. You will be entitled to continue to receive your then-current Base Salary for [_____] (___)¹ months (such period of months, the “*Severance Period*”) commencing on the first payroll period following the effective date of your Release.

(2) [Accelerated Vesting of Stock Awards.

(i) Effective as of the effective date of your Release, (i) the vesting and exercisability of all outstanding stock options to purchase the Company’s common stock that are held by you on such date and subject to time-based vesting requirements, (ii) any then-outstanding reacquisition or repurchase rights held by the Company in respect of common stock issued pursuant to any other stock award granted to you by the Company subject to a time-based lapse or vesting schedule, and (iii) the vesting of any other stock awards granted to you by the Company subject to time-based vesting requirements, and any issuance of shares triggered by the time-based vesting of such stock awards, shall in each case of (i),

¹Cash Severance Benefit for Chief Executive Officer is fifteen (15) months. Cash Severance Benefit for all other (non-CEO) officer participants (except for VPs) is twelve (12) months. Cash Severance Benefit for VP participants is six (6) months.

(ii) or (iii) above as applicable be accelerated (or lapse, in the case of reacquisition or repurchase rights subject to a time-based lapse) as if you had completed an additional number of months of service with the Company equal to the Severance Period as of the date of your termination.

(ii) In order to give effect to the intent of the foregoing provision, notwithstanding anything to the contrary set forth in your stock award agreements (or the applicable equity incentive plan under which such stock award was granted) that provides that any then-unvested portion of your award will immediately expire upon your termination of service, no unvested portion of your stock award shall terminate any earlier than thirty (30) days following any Involuntary Termination of your employment that occurs prior to a Closing. Notwithstanding anything to the contrary set forth herein, your stock awards shall remain subject to earlier termination in connection with a “Corporate Transaction” as provided in the Equity Plan or substantially equivalent provisions applicable to your stock award.²

(3) *Payment of Continued Group Health Plan Benefits.*

(i) If you timely elect continued group health plan continuation coverage under COBRA the Company shall pay the full amount of your COBRA premiums, or shall provide coverage under any self-funded plan, on behalf of you for your continued coverage under the Company’s group health plans, including coverage for your eligible dependents, for the Severance Period (the “**COBRA Payment Period**”). Upon the conclusion of such period of insurance premium payments made by the Company, or the provision of coverage under a self-funded group health plan, you will be responsible for the entire payment of premiums (or payment for the cost of coverage) required under COBRA for the duration of your eligible COBRA coverage period. For purposes of this Section, (i) references to COBRA shall be deemed to refer also to analogous provisions of state law and (ii) any applicable insurance premiums that are paid by the Company shall not include any amounts payable by you under an Internal Revenue Code Section 125 health care reimbursement plan, which amounts, if any, are your sole responsibility.

(ii) Notwithstanding the foregoing, if at any time the Company determines, in its sole discretion, that it cannot provide the COBRA premium benefits without potentially incurring financial costs or penalties under applicable law (including, without limitation, Section 2716 of the Public Health Service Act), then in lieu of paying COBRA premiums on the your behalf, the Company will instead pay you on the last day of each remaining month of the COBRA Payment Period a fully taxable cash payment equal to the COBRA premium for that month, subject to applicable tax withholding (such amount, the “**Special Severance Payment**”), such Special Severance Payment to be made without regard to yours election of COBRA coverage or payment of COBRA premiums and without regard to your continued eligibility for COBRA coverage during the COBRA Payment Period. Such Special Severance Payment shall end upon expiration of the COBRA Payment Period.

(b) **Change in Control Termination.** Upon a Change in Control Termination, you shall be eligible to receive the following severance benefits. For the avoidance of doubt, in no event shall you be entitled to benefits under both Section 2(a) and this Section 2(b). If you are eligible for severance benefits under both Section 2(a) and this Section 2(b), you shall receive the benefits set forth in this Section 2(b) and such benefits shall be reduced by any benefits previously provided to you under Section 2(a).

²This bracketed section is applicable for the Chief Executive Officer and other (non-CEO) officer participants, except for VPs; delete for VP participants.

(1) *Cash Severance Benefit.* You will receive the cash severance benefit described in Section 2(a)(1) above, except that:

(i) your Severance Period will be [_____] (___)³ months and Base Salary payments will commence on the first payroll period following the later of (i) the effective date of your Release, or (ii) the effective date of the Closing; [and

(ii) you will additionally be entitled to a lump sum amount equivalent to the target bonus, if any, established for you by the Board for the year in which your Change in Control Termination occurs, payable in a lump sum payment within ten (10) business days following the later of (i) the effective date of your Release, or (ii) the effective date of the Closing.]⁴

(2) *Accelerated Vesting of Stock Awards.*

(i) Effective as of the later of the effective date of your Release or the effective date of the Closing, to the extent not previously vested: (i) the vesting and exercisability of all outstanding stock options to purchase the Company's common stock that are held by you on such date shall be accelerated in full, (ii) any reacquisition or repurchase rights held by the Company in respect of common stock issued pursuant to any other stock award granted to you by the Company shall lapse in full, and (iii) the vesting of any other stock awards granted to you by the Company, and any issuance of shares triggered by the vesting of such stock awards, shall be accelerated in full. Notwithstanding the foregoing, this Section 2(b)(2) shall not apply to stock awards issued under or held in any Qualified Plan. For purposes of determining the number of shares that will vest pursuant to the foregoing provision with respect to any performance based vesting award that has multiple vesting levels depending upon the level of performance, vesting acceleration shall occur with respect to the number of shares subject to the award as if the applicable performance criteria had been attained at a 100% level.

(ii) In order to give effect to the intent of the foregoing provision, notwithstanding anything to the contrary set forth in your stock award agreements or the applicable equity incentive plan under which such stock award was granted that provides that any then unvested portion of your award will immediately expire upon your termination of service, no unvested portion of your stock award shall terminate any earlier than thirty (30) days following any Involuntary Termination of your employment that occurs prior to a Closing. Notwithstanding anything to the contrary set forth herein, your stock awards shall remain subject to earlier termination in connection with a "Corporate Transaction" as provided in the Equity Plan or substantially equivalent provisions applicable to your stock award.

³Cash Severance Benefit for Chief Executive Officer is eighteen (18) months. Cash Severance Benefit for all other (non-CEO) officer participants (except for VPs) is twelve (12) months. Cash Severance Benefit for VP participants is nine (9) months.

⁴This bracketed section is applicable for the Chief Executive Officer and the other officers (except for VPs); delete for VP participants.

(3) *Payment of Continued Group Health Plan Benefits.* You will receive the payment for continued group health plan benefits described in Section 2(a)(3) above, except that the COBRA Payment Period will be equal to the Severance Period applicable to a Change in Control Termination as set forth in Section 2(b)(1) above.

Section 3. NON-COMPETITION AND NON-SOLICITATION DURING SEVERANCE PERIOD.

Your eligibility for and receipt of any severance benefits to which you may become entitled as described in Section 2 above is expressly contingent upon your compliance with the terms and conditions of the following provisions of this Section 3 or the provisions of the Employee Proprietary Information and Inventions Agreement between you and the Company dated _____ as may be amended from time to time (the "*PIIA*"). Severance benefits under this Agreement shall immediately cease in the event of your violation of the provisions in this Section 3.

By signing this Agreement, you acknowledge and agree that you have knowledge of the Company's most proprietary and valuable confidential information and that you have been and will be involved in the development, and supervising the development, of the same; and have unique insight into and knowledge of the skills, talents and capabilities of the Company's key employees. You further acknowledge and agree that the covenants contained in this Section 3 are reasonable and necessary to protect the legitimate business interests of the Company, in view of, among other things, the short duration of the restrictions, the narrow scope of the restrictions, and the Company's interests in protecting its goodwill, valuable confidential information, trade secrets, and its business relationships with customers throughout its market service area. You agree that your background and capabilities will allow you to seek and accept work acceptable to you without violation of the covenants and restrictions contained in this Section 3. You further acknowledge and agree that the potential to receive severance benefits as set forth in this Agreement constitutes sufficient consideration for your promises set forth in this Section 3.

You covenant and agree that, during the Restricted Period and within the Restricted Territory (as such terms are defined below), you shall not compete against the Company by providing services substantially similar to those you provided to the Company (whether as an employee, owner, contractor or in any other capacity) for a business that competes with the Company or offers or conducts Competitive Business, in any capacity in which you would be assisting directly in conducting Competitive Business.

You covenant and agree that during the Restricted Period, you shall not, whether for your own account or for the account of a third party or other person or entity, hire, employ, solicit, endeavor to entice away from the Company, or otherwise interfere with the relationship of the Company with, any employee or contractor who is employed by or under contract with the Company or who was employed by or under contract with the Company during the six month period preceding your breach or attempted breach of this restriction.

For the purposes of the covenants in Section 3 of this Agreement, the following definitions shall apply:

(a) "*Restricted Period*" means the Severance Period applicable to your Covered Termination.

(b) “*Restricted Territory*” means the geographic areas and locations where the Company carries on or transacts its business or conducts its business operations, including without limitation (A) the United States of America, including each state of the United States; (B) the European Union, including each country which is a part thereof, and (C) North Carolina, including each county of North Carolina.

(c) “*Competitive Business*” means working on the discovery, development or commercialization of drugs or drug candidates in the field of cytomegalovirus, adenovirus, smallpox and other double-stranded DNA viruses.

Section 4. DEFINITIONS.

(a) “*Equity Plan*” means the Company’s 2002 Equity Incentive Plan, 2012 Equity Incentive Plan, 2013 Equity Incentive Plan or any successor or other equity incentive plan adopted by the Company which govern your stock awards, as applicable.

(b) “*Qualified Plan*” means a plan sponsored by the Company or an Affiliate that is intended to be qualified under Section 401(a) of the Internal Revenue Code.

Section 5. ACKNOWLEDGEMENTS.

As a condition to participation in the Plan, you hereby acknowledge each of the following:

(a) The severance benefits that may be provided to you under this Agreement are subject to all of the terms of the Plan which is incorporated into and becomes part of this Agreement, including but not limited to the reductions under Section 3 of the Plan.

(b) This Agreement and the Plan supersedes any severance benefit plan, policy or practice previously maintained by the Company that may have been applicable to you, including but not limited to any Participation Agreement previously provided to you [and in particular the Participation Agreement under the Plan executed by you on _____, 2013]. This Agreement and the Plan do not supersede, replace or otherwise alter the PIIA.

(c) You may not sell, transfer, or otherwise assign or pledge your right to benefits under this Agreement and the Plan to either your creditors or to your beneficiary, except to the extent permitted by the Plan Administrator if such action would not result in adverse tax consequences under Section 409A.

To accept the terms of this Agreement and participate in the Plan, please sign and date this Agreement in the space provided below and return it to _____ no later than _____, ____.

Chimerix, Inc.

By: ___

Title: Chairman of the Board of Directors

[Eligible Officer] Date

— —————

20.

ANNEX I

CHIMERIX, INC. OFFICER SEVERANCE BENEFIT PLAN⁵

⁵Attach copy of the Plan as most recently approved by the Board.

EXHIBIT A

AGREEMENT AND RELEASE

This Agreement and Release (“Release”) is made and entered into by and between _____ (hereinafter “Employee”), and Chimerix, Inc., a Delaware corporation (hereinafter the “Company”).

WHEREAS, Employee’s employment with the Company has terminated;

WHEREAS, Employee is eligible for certain benefits under a Participation Agreement between Employee and the Company dated ____ (the “Participation Agreement”) under the Chimerix, Inc. Officer Severance Benefit Plan (the “Severance Plan”); and

WHEREAS, the parties desire to settle fully, finally, and on a confidential basis all matters between them, including but not limited to the employment and termination of Employee, without any admission of liability;

NOW, THEREFORE, in consideration of the premises and mutual promises contained in this Release, and other valuable consideration to which Employee is not otherwise entitled, the receipt and sufficiency of which are hereby acknowledged, it is agreed by the parties as follows:

1. Termination of Employment. Employee agrees that his employment with the Company ended on _____ (the “Termination Date”). Employee will be paid accrued but unused vacation on the Company’s next regular payroll date after the Termination Date. Except as provided herein, all benefits cease as of the Termination Date.

2. Consideration. As a material inducement to and in consideration for Employee entering into this Release, and subject to the terms and conditions of this Release, the Severance Plan and the Participation Agreement, the Company agrees as follows:

a. The Company shall pay Employee the gross sum of up to _____ Dollars (\$XX,XXX) which represents the Cash Severance Benefit set forth in Section [2(a)(1)] [2(b)(1)] of the Participation Agreement subject to the terms and provisions (including the time and form of and conditions required for full payment) of the Participation Agreement and the Severance Plan.

b. Provided Employee is eligible for, and timely elects, COBRA continuation coverage, the Company will pay the full amount of COBRA premiums as set forth in Section [2(a)(3)] [2(b)(3)] of the Participation Agreement for a period of up to X total months, subject to the terms of the Participation Agreement and the Plan.

1.

c. Employee shall become vested in the stock options and equity compensation awards shown on Exhibit A, pursuant to the terms of Section [2(a)(2)] [2(b)(2)] of the Participation Agreement.

d. [if CIC, add: Employee will be paid the gross amount of _____ (\$XX) on or before _____, in full satisfaction of Section 2(b)(1)(ii) of the Participation Agreement.]

e. Employee acknowledges that he/she is not eligible for the severance benefits described in this Section 2 in the absence of his/her execution and non-revocation of this Release.

3. Rights Reserved. By executing this Release, Employee does not waive:

a. Claims or rights Employee may have with respect to vested benefits Employee has accrued under the Chimerix, Inc. 401(k) Profit Sharing Plan & Trust;

b. Claims or rights Employee may have with respect to the stock options and equity compensation awards listed on **Exhibit A**;

c. Claims or rights Employee may have which arise after the date Employee signs this Release, including those under the Age Discrimination in Employment Act;

d. COBRA rights Employee may have under any group health plan pursuant to Code Section 4980B;

e. Rights Employee may have under the provisions of this Release; and

f. Claims for indemnification under the Company's bylaws or other corporate governance documents.

4. No Other Entitlements. Except for the compensation, monies and benefits expressly set forth in Section 2 and the rights reserved under Section 3, Employee acknowledges that he is not entitled to any other compensation, monies or benefits from the Company, including but not limited to compensation for vacation or other time off, bonuses, commissions, expense reimbursements, or other forms of compensation or benefits, repayments of debts, or reimbursements of expenses.

5. General Release.

a. By signing this Release, in consideration for the sums of money and benefits Employee is eligible to receive under this Release, Employee, on behalf of himself and his heirs, representatives, administrators, executors, successors and assigns, hereby irrevocably and unconditionally releases, acquits, and forever discharges to the fullest extent permitted by law, the Company and each of its present and former divisions, parent companies, subsidiaries, affiliates, predecessors, successors and assigns, and together with all present and former benefit plans or policies, plan administrators, agents, directors, officers, employees, owners,

representatives and attorneys of all such entities or persons and all persons acting by, through, under or in concert with any of them (collectively referred to as the "Released Parties"), from any and all charges, complaints, claims, liabilities, obligations, promises, agreements, controversies, damages, actions, causes of action, suits, rights, demands, costs, losses, debts and expenses (including attorney's fees and costs), of any nature whatsoever, known or unknown, which Employee now has, has had, or may hereafter claim to have had against each or any of the Released Parties resulting from or arising out of any matter, act, omission, cause or event whatever that has previously occurred; except that Employee does not waive or release rights reserved under Section 3 of this Release or rights or claims that cannot be lawfully waived. Employee understands that by signing this Release and accepting the sums of money and benefits described in this Release, Employee is waiving any right to pursue any claim against any of the Released Parties for payments or benefits of any kind (other than those expressly reserved in this Release), as well as claims for back pay, severance pay, liquidated damages, compensatory damages, punitive damages, or any other losses or other damages to Employee or Employee's property resulting from any claimed violation of local, state or federal law, including, for example (but not limited to), claims arising under Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, the Americans With Disabilities Act, the Sarbanes-Oxley Act of 2002, the Retaliatory Employment Discrimination Act, the Employee Retirement Income Security Act of 1974, The Family Medical Leave Act, the Fair Labor Standards Act, the North Carolina Wage and Hour Act, the North Carolina Retaliatory Employment Discrimination Act, the Genetic Information Nondiscrimination Act, the North Carolina Equal Employment Practices Act, the North Carolina Persons with Disabilities Protection Act, all as amended, and claims under any other federal, state or local law pertaining to Employee's employment or the termination of his employment.

b. This Release does not waive or interfere with any rights Employee may have to file a charge of discrimination with a federal or state administrative agency, provided, however, that Employee acknowledges and agrees that he is not entitled to any personal recovery in any such agency proceeding.

c. Employee acknowledges that this Release applies both to known and unknown claims that may exist between Employee and the Released Parties as of the date he signs this Release. Employee expressly waives and relinquishes all rights and benefits which Employee may have under any state or federal statute or common law principle that would otherwise limit the effect of this Release to claims known or suspected prior to the date Employee signs this Release, and does so understanding and acknowledging the significance and consequences of such specific waiver. Employee acknowledges that the benefits provided by the Company under Section 2 of this Release are discretionary in nature and not required of the Company in the absence of this Release and Employee's release of claims herein, and constitute adequate consideration for the release.

d. Employee represents that, as of the date of execution of this Release, he has not filed with any agency or court any complaint or lawsuit against any of the Released Parties (as defined in Section 5 of this Release), and to the best of his knowledge, has no claim, cause of action or rights of actions against the Company arising out of or in any way connected with his employment with the Company.

e. Employee agrees that he will not seek or apply for re-employment with any of the Released Parties and Employee waives any right to re-employment or reinstatement with the Company or any other Released Party. Employee acknowledges that it is the general policy of the Company and its subsidiaries not to re-employ individuals with whom it has entered into separation agreements of this nature.

6. No Admission of Liability or Wrongdoing. This Release will not be used or construed by any person or entity as an admission of liability or finding that Employee's rights were in any way violated by any of the Released Parties, and this Release may not be offered or received in evidence in any action or proceeding as an admission of liability or wrongdoing on the part of the Company or any other Released Party. Employee understands and agrees that the consideration received herein is accepted by him as full and complete settlement and compromise of any and all claims, asserted or unasserted, and the payment of such consideration is not an admission of liability by the Company.

7. Confidentiality of Release. Employee shall keep the terms of this Release strictly confidential and shall not disclose any information concerning the terms of this Release or provide a copy of the same to anyone, except Employee's immediate family and legal and financial advisors, who shall be bound to maintain the confidence of the terms of this Release. If required by law to produce a copy of this Release or to make such disclosure, Employee shall give the Company notice prior to such production or disclosure.

8. No Knowledge of Wrongdoing. Except as Reported. Employee represents and promises that he has no knowledge of any violation of federal or state laws or regulations except those, if any, which he has previously reported in writing to the Company's Corporate Counsel.

9. Post-Termination Obligations. All payments and benefits to Employee under Section 2 of this Release shall be subject to Employee's compliance with the following provisions following the Termination Date:

a. *Assistance in Litigation.* Employee shall, upon reasonable notice, furnish such information and assistance to the Company as may reasonably be required by the Company in connection with any litigation in which it is, or may become, a party, and which arises out of facts and circumstances known to Employee. The Company shall promptly reimburse Employee for his out-of-pocket expenses incurred in connection with the fulfillment of his obligations under this Section, provided that such expenses are incurred by Employee during his lifetime and reimbursements are made no later than the end of the calendar year following the calendar year in which the expense was incurred. The expenses eligible for reimbursement under this paragraph shall not affect any expenses eligible for reimbursement or in-kind benefits to be provided in any other year. If Employee provides litigation assistance at the Company's request

after _____, then the Company shall compensate Employee for the time spent in providing assistance at an hourly rate of _____ Dollars (\$XXX) per hour, paid within 30 days following the calendar quarter in which the assistance was provided. Employee's rights under this paragraph are not subject to liquidation or exchange for any other benefit.

b. *Confidential Information.* Employee remains bound by the obligations of the Proprietary Information and Inventions Agreement that he executed with the Company on _____ (the "PIIA"). In addition, Employee agrees that he will promptly return and deliver to the Company all documents, data and other materials and items in his possession, custody or control, wherever located, that belong to the Company and/or contain or reflect Confidential Information, including, but not limited to, any and all keys, credit cards, security cards, computer software, disks, data, records, notebooks, correspondence, customer or supplier lists, files, forms, supplies or other documents or materials, in any form or format and including, but not limited to, any printed versions or copies or other recordings of such documents or materials, that have been provided or furnished to Employee by the Company or its affiliates, or have been obtained or developed or used by Employee during the performance of Employee's services for the Company, or in connection with Employee's services or any other activities for the Company. Employee agrees that prior to responding to any valid subpoena, court order or other legal process which would require disclosure of Confidential Information encompassed by this paragraph, he shall give the Company prior written notice of the subpoena, court order or other legal process in sufficient time to afford the Company a reasonable opportunity to challenge the subpoena, court order or other legal process.

c. *Noncompetition.* Employee acknowledges that he remains bound by the Non-Competition and Non-Solicitation provisions of Section 3 of the Participation Agreement.

d. *Failure to Comply.* In the event that Employee shall fail to comply with any provision of this Section 9, and such failure shall continue for ten (10) days following delivery of notice thereof by the Company to Employee, all rights of Employee and any person claiming under or through him to payments and benefits under paragraphs (a) through (c) of Section 2 of this Release shall thereupon terminate and no person shall be entitled thereafter to receive any such payments or benefits. In addition to the foregoing:

i. The amount, if any, payable to Employee after the Termination Date under Section 2 shall be reduced, but not below zero, by the amount of any remuneration for personal services earned by or payable to Employee by a business that is in competition with the Company within the Territory.

ii. In the event of a breach or threatened breach by Employee of the provisions of this Section, the Company shall have and may exercise any and all other rights and remedies available to the Company at law or otherwise, including but not limited to obtaining an injunction from a court of competent jurisdiction enjoining and restraining Employee from committing such violation, and Employee hereby consents to the issuance of such injunction.

10. Non-Disparagement. Employee agrees not to disparage the Company, including, without limitation, making disparaging comments about the Company or releasing or causing to be released information for the purpose of discrediting the Company. The Company agrees to instruct its officers and directors not to disparage Employee, including, without limitation, making disparaging comments about Employee or releasing or causing to be released information for the purpose of discrediting Employee.

11. Section 409A Compliance. To the extent applicable, the parties hereto intend that the Severance Plan and this Release be exempt from, or if an exemption is not available, comply with Section 409A of the Internal Revenue Code of 1986, as amended and the regulations and other guidance thereunder and any state law of similar effect (collectively "Section 409A"). The parties hereby agree that this Release shall at all times be construed in a manner to be exempt from, or if an exemption is not available, to comply with, Section 409A. The parties also agree that in no event shall any payment required to be made pursuant to this Release that is considered deferred compensation within the meaning of Section 409A and is not otherwise exempt from the provision thereof be accelerated in violation of Section 409A. The parties further agree that any payment paid in connection with this Release pursuant to the Participation Agreement and Severance Plan will be paid in accordance with the provisions of Section 5 of the Severance Plan.

12. Taxes. The Company does not represent or guarantee that any particular federal or state income, payroll or other tax treatment will result from this Agreement or the compensation or benefits payable pursuant to this Agreement. Executive is solely responsible for the proper tax reporting and timely payment of any income tax or interest for which he is liable as a result of this Agreement and the compensation or benefits payable pursuant to this Agreement.

13. No Attachment. No right to receive payments under this Agreement shall be subject to set off, offset, anticipation, commutation, alienation, sale, assignment, encumbrance, charge, pledge or hypothecation or to execution, attachment, levy or similar process or assignment by operation of law, and any attempt, voluntary or involuntary, to effect any such action shall be null, void and of no effect.

14. ADEA Acknowledgements. Employee acknowledges the following:

a. Employee has been advised by the Company that this Release affects important rights, and includes a release of any and all claims arising out of any alleged violation of Employee's rights related to his employment with the Company or any of its predecessors, including, but not limited to, any and all claims Employee may have under the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 621, et seq. Because this Release affects important rights, Employee has been and is hereby advised in writing to consult

with an attorney prior to executing this Release;

b. Employee is advised that he has twenty one (21) days to consider this Release and Employee may take as much of that time as he wishes before signing. If Employee decides to accept the benefits offered herein, he must sign this Release and return it to _____ at Chimerix, Inc., 2505 Meridian Parkway, Suite 340, Durham NC 27713 before the expiration of the twenty-one (21) days. By signing below, Employee acknowledges that he received this Release on _____; and

c. Employee is advised that, if he signs this Release, he will have a period of seven (7) days from the date of his acceptance to change his mind and revoke this Release. If Employee decides to revoke this Release, then he should deliver written notice to _____ at Chimerix, Inc. within such 7-day period. None of the terms and conditions contained herein will be enforceable by the parties hereto until the expiration of this 7-day period, and this Release will not become effective until such 7-day period has passed without Employee's revocation of it.

15. Miscellaneous This Release shall be binding upon and inure to the benefit of Employee, his assigns, heirs, executors, administrators, representatives, as well as the predecessors, successors, purchasers and assigns of the Company. Employee may not assign any of his rights or delegate any of his duties under this Release. Except as preempted by federal law, this Release shall be governed by and construed in accordance with the laws of the State of North Carolina, without reference to its conflict of law provision. Any number of counterparts of this Release may be signed and delivered, each of which shall be considered an original and all of which, together, shall constitute one and the same instrument.

16. Entire Agreement. This Release, with attachments, the PIIA, the Participation Agreement and the Severance Plan comprise the entire agreement and understanding of the parties with respect to the subject matter, specifically including but not limited to any terms and conditions of employment or the termination of employment, and there are no agreements or understandings other than those contained herein. Further, this Release is intended to be a binding contract among the parties hereto and shall not be modified, except by writing signed by both Employee and the Company. The provisions of this Release shall be deemed severable, and the invalidity or unenforceability of any provision (or part thereof) of this Release shall in no way affect the validity or enforceability of any other provisions (or remaining part thereof).

EMPLOYEE ACKNOWLEDGES AND AGREES THAT EMPLOYEE HAS CAREFULLY READ AND FULLY UNDERSTANDS ALL THE PROVISIONS OF THIS RELEASE. EMPLOYEE ACKNOWLEDGES THAT EMPLOYEE HAS NOT RELIED UPON ANY REPRESENTATION OR STATEMENT, WRITTEN OR ORAL, WHICH IS NOT SET FORTH IN THIS DOCUMENT. EMPLOYEE FURTHER ACKNOWLEDGES THAT EMPLOYEE IS ENTERING INTO THIS RELEASE VOLUNTARILY AND OF EMPLOYEE'S OWN FREE WILL, WITHOUT ANY COERCION FROM ANY PERSON, INCLUDING THE COMPANY OR ANY OF ITS REPRESENTATIVES. EMPLOYEE ACKNOWLEDGES THAT EMPLOYEE FULLY AND COMPLETELY UNDERSTANDS THE TERMS AND CONDITIONS OF THIS RELEASE AND HAS VOLUNTARILY AND KNOWINGLY

7.

AGREED TO SUCH TERMS AND CONDITIONS, INCLUDING ALL RELEASES OF CLAIMS EMPLOYEE MAY HAVE AGAINST THE COMPANY OR ANY OF THE RELEASED PARTIES, IN EXCHANGE FOR VALUABLE CONSIDERATION THAT EMPLOYEE IS NOT OTHERWISE ENTITLED TO RECEIVE.

IN WITNESS WHEREOF, the parties have executed this Release on this the ____ day of

_____, 201 ____.

EMPLOYEE:

CHIMERIX, INC.

By: _____

Name: _____

Title: _____

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, M. Michelle Berrey, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the three months ended September 30, 2018 of Chimerix, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2018

/s/ M. Michelle Berrey

M. Michelle Berrey, MD, MPH
President & Chief Executive Officer

CERTIFICATION OF THE CHIEF FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Timothy W. Trost, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the three months ended September 30, 2018 of Chimerix, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2018

/s/ Timothy W. Trost

Timothy W. Trost
Senior Vice President, Chief Financial Officer and Corporate
Secretary

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Chimerix, Inc. (the "Company") for the period ended September 30, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, M. Michelle Berrey, as Principal Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 8, 2018

/s/ M. Michelle Berrey

M. Michelle Berrey, MD, MPH
President & Chief Executive Officer

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Chimerix, Inc. (the "Company") for the period ended September 30, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Timothy W. Trost, as Principal Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 8, 2018

/s/ Timothy W. Trost

Timothy W. Trost
Senior Vice President, Chief Financial Officer and Corporate
Secretary

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

