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, 2020

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: 001-38672

ARVINAS, INC.

(Exact name of registrant as specified in its Charter)

Delaware	**47-2566120**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
5 Science Park 395 Winchester Ave. New Haven, Connecticut	**06511**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (203) 535-1456

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.001 per share	ARVN	The Nasdaq Stock Market LLC

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, a 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.

Large accelerated filer	☐	Accelerated filer	☒
Non-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 30, 2020, the registrant had 40,548,985 shares of common stock, $0.001 par value per share, outstanding.

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FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this Quarterly Report on Form 10-Q, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “predict,” “project,” “target,” “potential,” “goals,” “will,” “would,” “could,” “should,” “continue” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this Quarterly Report on Form 10-Q include, among other things, statements about:

- the timing and conduct of our clinical trial programs of ARV-110, ARV-471 and ARV-766, including statements regarding the conduct of our ongoing Phase 1/2 clinical trials of ARV-110 and ARV-471, including one or more Phase 1b cohort expansions of ARV-110 in combination with standard of care agents and the Phase 1b cohort expansion evaluating ARV-471 in combination with palbociclib, and the period during which the results of the clinical trials will become available;
- the timing of, and our ability to obtain, marketing approval of ARV-110 and ARV-471, and the ability of ARV-110 and ARV-471 and our other product candidates to meet existing or future regulatory standards;
- our plans to pursue research and development of other product candidates;
- the potential advantages of our platform technology and our product candidates;
- the extent to which our scientific approach and platform technology may potentially address a broad range of diseases;
- the potential benefits of our arrangements with Yale University and Professor Crews;
- the potential receipt of revenue from future sales of our product candidates;
- the rate and degree of market acceptance and clinical utility of our product candidates;
- our estimates regarding the potential market opportunity for our product candidates;
- our sales, marketing and distribution capabilities and strategy;
- our ability to establish and maintain arrangements for manufacture of our product candidates;
- the potential achievement of milestones and receipt of payments under our collaborations;
- our ability to enter into additional collaborations with third parties;
- our intellectual property position;
- our estimates regarding expenses, future revenues, capital requirements and needs for additional financing;
- the impact of COVID-19 on our business and operations;
- the impact of government laws and regulations; and
- our competitive position.

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 we make. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q, particularly in the “Risk Factors” section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this Quarterly Report on Form 10-Q and the documents that we have filed as exhibits to this Quarterly Report on Form 10-Q completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements except as required by applicable law.

In this Quarterly Report on Form 10-Q, unless otherwise stated or the context otherwise requires, references to the “Company,” “Arvinas,” “we,” “us,” and “our,” except where the context requires otherwise, refer to Arvinas, Inc. and its consolidated subsidiaries, or any one or more of them as the context may require, and “our board of directors” refers to the board of directors of Arvinas, Inc.

Item 1. Financial Statements.

ARVINAS, INC. AND SUBSIDIARIES

Condensed Consolidated Balance Sheets (unaudited)

	September 30, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 88,988,921	$ 9,211,057
Marketable securities	159,574,963	271,661,456
Account receivable	2,444,450	—
Other receivables	3,511,633	6,280,828
Prepaid expenses and other current assets	3,459,862	3,727,294
Total current assets	257,979,829	290,880,635
Property, equipment and leasehold improvements, net	11,712,403	8,455,411
Operating lease right of use assets	2,226,422	2,278,623
Other assets	28,777	26,757
Total assets	$ 271,947,431	$ 301,641,426
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 5,088,034	$ 4,556,827
Accrued expenses	12,143,734	7,602,904
Deferred revenue	21,358,989	19,979,525
Current portion of operating lease liability	939,761	673,896
Total current liabilities	39,530,518	32,813,152
Deferred revenue	23,945,470	38,427,882
Long term debt	2,000,000	2,000,000
Operating lease liability	1,351,476	1,714,111
Total liabilities	66,827,464	74,955,145
Commitments and Contingencies		
Stockholders’ equity:		
Common stock, $0.001 par value; 40,096,001 and 38,461,353 shares issued and outstanding as of September 30, 2020 and December 31, 2019, respectively	40,096	38,461
Accumulated deficit	(450,342,422)	(372,556,846)
Additional paid-in capital	654,342,486	599,097,090
Accumulated other comprehensive income	1,079,807	107,576
Total stockholders’ equity	205,119,967	226,686,281
Total liabilities and stockholders’ equity	$ 271,947,431	$ 301,641,426

See accompanying notes

ARVINAS, INC. AND SUBSIDIARIES

Condensed Consolidated Statements of Operations and Comprehensive Loss (unaudited)

Condensed Consolidated Statements of Operations	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2020	2019	2020	2019
Revenue	$ 7,596,776	$ 30,050,227	$ 19,584,085	$ 38,083,205
Operating expenses:				
Research and development	30,012,918	16,588,050	75,155,694	46,779,047
General and administrative	9,331,925	7,957,364	26,072,404	20,038,772
Total operating expenses	39,344,843	24,545,414	101,228,098	66,817,819
Income (loss) from operations	(31,748,067)	5,504,813	(81,644,013)	(28,734,614)
Other income (expenses)				
Other income, net	144,215	405,302	841,967	840,153
Interest income	800,236	1,112,415	3,065,220	3,394,269
Interest expense	(16,250)	(22,903)	(48,750)	(69,319)
Total other income	928,201	1,494,814	3,858,437	4,165,103
Loss from equity method investment	—	(24,675,000)	—	(24,675,000)
Net loss	(30,819,866)	(17,675,373)	(77,785,576)	(49,244,511)
Net loss per common share, basic and diluted	$ (0.79)	$ (0.54)	$ (2.01)	$ (1.54)
Weighted average common shares outstanding, basic and diluted	39,058,294	32,740,486	38,784,569	31,876,074

Condensed Consolidated Statements of Comprehensive Loss	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2020	2019	2020	2019
Net loss	$ (30,819,866)	$ (17,675,373)	$ (77,785,576)	$ (49,244,511)
Other comprehensive income (loss):				
Unrealized gain (loss) on available-for-sale securities	(584,317)	(103,505)	972,231	414,368
Comprehensive loss	$ (31,404,183)	$ (17,778,878)	$ (76,813,345)	$ (48,830,143)

See accompanying notes

ARVINAS, INC. AND SUBSIDIARIES

Condensed Consolidated Statements of Changes in Stockholders' Equity (unaudited)

	Common Shares	Common Amount	Accumulated Deficit	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
Balance at June 30, 2019	31,523,474	$ 31,524	$ (333,833,757)	$ 450,007,344	$ 300,150	$ 116,505,261
Stock-based compensation	—	—	—	4,601,214	—	4,601,214
Issuance of common stock	1,346,313	1,346	—	29,452,687	—	29,454,033
Net loss	—	—	(17,675,373)	—	—	(17,675,373)
Restricted stock vesting	120,647	120	—	(120)	—	—
Exercise of stock options	86,123	86	—	1,377,882	—	1,377,968
Unrealized loss on available-for-sale securities	—	—	—	—	(103,505)	(103,505)
Balance at September 30, 2019	33,076,557	$ 33,076	$ (351,509,130)	$ 485,439,007	$ 196,645	$ 134,159,598
Balance at June 30, 2020	38,825,190	$ 38,825	$ (419,522,556)	$ 615,601,031	$ 1,664,124	$ 197,781,424
Stock-based compensation	—	—	—	8,246,921	—	8,246,921
Net loss	—	—	(30,819,866)	—	—	(30,819,866)
Restricted stock vesting	82,156	82	—	(82)	—	—
Exercise of stock options	25,581	26	—	577,277	—	577,303
Common stock issued in at-the-market offering, net of offering costs of $0.9 million	1,163,074	1,163	—	29,917,339	—	29,918,502
Unrealized loss on available-for-sale securities	—	—	—	—	(584,317)	(584,317)
Balance at September 30, 2020	40,096,001	$ 40,096	$ (450,342,422)	$ 654,342,486	$ 1,079,807	$ 205,119,967

	Common Shares	Common Amount	Accumulated Deficit	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
Balance at December 31, 2018	31,235,458	$ 31,236	$ (302,264,619)	$ 439,118,089	$ (217,723)	$ 136,666,983
Stock-based compensation	—	—	—	15,091,269	—	15,091,269
Issuance of common stock	1,346,313	1,346	—	29,452,687	—	29,454,033
Net loss	—	—	(49,244,511)	—	—	(49,244,511)
Restricted stock vesting	383,695	383	—	(383)	—	—
Exercise of stock options	111,091	111	—	1,777,345	—	1,777,456
Unrealized gain on available-for-sale securities	—	—	—	—	414,368	414,368
Balance at September 30, 2019	33,076,557	$ 33,076	$ (351,509,130)	$ 485,439,007	$ 196,645	$ 134,159,598
Balance at December 31, 2019	38,461,353	$ 38,461	$ (372,556,846)	$ 599,097,090	$ 107,576	$ 226,686,281
Stock-based compensation	—	—	—	22,121,591	—	22,121,591
Net loss	—	—	(77,785,576)	—	—	(77,785,576)
Restricted stock vesting	295,065	295	—	(295)	—	—
Exercise of stock options	176,509	177	—	3,206,761	—	3,206,938
Common stock issued in at-the-market offering, net of offering costs of $0.9 million	1,163,074	1,163	—	29,917,339	—	29,918,502
Unrealized gain on available-for-sale securities	—	—	—	—	972,231	972,231
Balance at September 30, 2020	40,096,001	$ 40,096	$ (450,342,422)	$ 654,342,486	$ 1,079,807	$ 205,119,967

See accompanying notes

ARVINAS, INC. AND SUBSIDIARIES

Condensed Consolidated Statements of Cash Flows (unaudited)

	For the Nine Months Ended September 30,	
	2020	2019
Cash flows from operating activities:		
Net loss	$ (77,785,576)	$ (49,244,511)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization of debt discount	—	15,149
Depreciation and amortization	2,113,865	1,024,845
Net accretion of bond discounts/premiums	1,404,626	(109,870)
Gain on sale of marketable securities	(327,025)	—
Amortization of right to use assets	624,614	506,855
Stock-based compensation	22,121,591	15,091,269
Changes in operating assets and liabilities:		
Account receivable	(2,444,450)	2,716,501
Other receivables	2,769,195	(2,886,261)
Prepaid expenses and other current assets	265,412	(1,282,866)
Accounts payable	(246,733)	(618,960)
Accrued expenses	4,540,830	2,225,695
Deferred revenue	(13,102,948)	8,513,945
Operating lease liabilities	(669,183)	(399,610)
Net cash used in operating activities	(60,735,782)	(24,447,819)
Cash flows from investing activities:		
Purchase of marketable securities	(41,196,165)	(113,056,097)
Maturities of marketable securities	115,402,053	119,842,816
Sales of marketable securities	37,775,235	—
Purchase of property, equipment and leasehold improvements	(4,592,917)	(4,455,360)
Net cash provided by investing activities	107,388,206	2,331,359
Cash flows from financing activities:		
Repayments of long-term debt	—	(169,610)
Proceeds from sale of common stock in at-the-market offering	30,835,206	—
Payment of common stock offering costs	(916,704)	—
Proceeds from issuance of common stock	—	29,454,033
Proceeds from exercise of stock options	3,206,938	1,777,456
Net cash provided by financing activities	33,125,440	31,061,879
Net increase in cash and cash equivalents	79,777,864	8,945,419
Cash and cash equivalents, beginning of the period	9,211,057	3,190,056
Cash and cash equivalents, end of the period	$ 88,988,921	$ 12,135,475
Supplemental disclosure of cash flow information:		
Purchases of property, equipment and leasehold improvements unpaid at period end	$ 777,940	$ 138,600
Cash paid for interest	$ 48,750	$ 59,586

See accompanying notes

1. Nature of Business

Arvinas, Inc. and subsidiaries (the Company) is a clinical-stage biopharmaceutical company dedicated to improving the lives of patients suffering from debilitating and life-threatening diseases through the discovery, development and commercialization of therapies that degrade disease-causing proteins. The Company expects to incur additional operating losses and negative operating cash flows for the foreseeable future.

A novel strain of coronavirus (COVID-19) was first identified in December 2019, and subsequently declared a global pandemic by the World Health Organization on March 11, 2020. As a result of the outbreak, many companies have experienced disruptions in their operations and in markets served. The Company has instated some and may take additional precautionary measures intended to help ensure the well-being of its employees and minimize business disruption. The Company temporarily shut down its laboratories in mid-March 2020 and initiated work with biology contract research organizations (CROs) but has since reopened its laboratories. The Company's office-based employees continue to work remotely. The Company considered the impact of COVID-19 on the assumptions and estimates used and determined that there were no material adverse impacts on the Company's results of operations and financial position as of September 30, 2020. The full extent of the future impacts of COVID-19 on the Company's operations is uncertain. A prolonged outbreak could have a material adverse impact on financial results and business operations of the Company, including the timing and ability of Company to complete certain clinical trials and other efforts required to advance its preclinical pipeline.

2. Summary of Significant Accounting Policies

Unaudited Interim Financial Statements

The accompanying condensed consolidated financial statements are unaudited and have been prepared by the Company in accordance with accounting principles generally accepted in the United States (U.S. GAAP) and pursuant to the rules and regulations of the Securities and Exchange Commission. The year-end condensed consolidated balance sheet data was derived from the Company's audited financial statements but does not include all disclosures required by U.S. GAAP. These condensed consolidated financial statements should be read in conjunction with the Company's audited financial statements for the years ended December 31, 2019 and 2018 included in the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the Securities and Exchange Commission on March 16, 2020 (the Annual Report). The condensed consolidated financial statements, in the opinion of management, reflect all normal and recurring adjustments necessary for a fair statement of the Company's financial position and results of operations.

Recently Adopted Accounting Pronouncements

In June 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-13*, Financial Instruments – Credit Losses*, which provides a model for recognizing credit losses on financial instruments based on an estimate of current expected losses, requiring immediate recognition of credit losses expected over the life of a financial instrument. The Company adopted ASU 2016-13 in the first quarter of 2020. The adoption of the standard was immaterial to the accompanying condensed consolidated financial statements.

During the three months ended September 30, 2020, there were no changes to the Company's significant accounting policies as described in Note 2 to the notes to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2019.

3. Research Collaboration and License Agreements

In June 2019, the Company and Bayer AG entered into a Collaboration and License Agreement (Bayer Collaboration Agreement) setting forth the Company's collaboration with Bayer AG to identify or optimize proteolysis targeting chimeras, or PROTAC® targeted protein degraders, that mediate the degradation of target proteins (Targets), using the Company's proprietary platform technology, which Targets will be selected by Bayer AG, subject to certain exclusions and limitations. The Bayer Collaboration Agreement became effective in July 2019. Under the terms of the Bayer Collaboration Agreement, the Company received an upfront non-refundable payment of $17.5 million in exchange for the use of the Company's technology license and a $1.5 million payment to fund research activities. Bayer is committed to fund an additional $10.5 million through 2022, of which $3.0 million was received in March 2020. These payments are being recognized over the total estimated period of performance. The Company is also eligible to receive up to $197.5 million in development milestone payments and up to $490.0 million in sales-based milestone payments for all designated Targets. In addition, the Company is eligible to receive, on net sales of PROTAC targeted protein degrader-related products, mid-single digit to low-double digit tiered royalties, which may be subject to reductions.

The Company determined that the Bayer Collaboration Agreement and a Stock Purchase Agreement entered into with Bayer AG at the same time should be evaluated as a combined contract in accordance with ASC 606, *Revenue from Contracts with Customers*, given that the agreements were entered into at the same time and have the same commercial objective to provide funding to further the Company's research utilizing its proprietary technology. The Company identified the elements under the agreements as license and research revenue and the issuance of the common stock. The Company determined the fair value of the shares sold under the Stock Purchase Agreement to be $2.9 million less than the contractual purchase price stipulated in the agreement. In accordance with the applicable accounting guidance in ASC 815-40, *Contracts in Entity's Own Equity*, the Company determined that the sale of stock should be recorded at fair value. Therefore, the Company allocated the additional $2.9 million of consideration received under the Stock Purchase Agreement to the Bayer Collaboration Agreement given that the two contracts were determined to be combined contracts. This amount has, therefore, been added to the total transaction price and was included in initial contract liabilities balances.

In December 2017, the Company entered into a Research Collaboration and License Agreement with Pfizer, Inc. (Pfizer) (the Pfizer Collaboration Agreement). Under the terms of the Pfizer Collaboration Agreement, the Company received an upfront non-refundable payment and certain additional payments totaling $28.0 million in 2018 in exchange for use of the Company's technology license and to fund Pfizer-related research as defined within the agreement. These payments are being recognized as revenue over the total estimated period of performance. The Company is also eligible to receive up to an additional $37.5 million in non-refundable option payments if Pfizer exercises its options for all targets under the agreement. Pfizer has exercised options for $4.9 million as of September 30, 2020, of which $2.4 million was included in accounts receivable as of September 30, 2020. The option will be recognized as revenue over the estimated period of performance. The Company is also entitled to receive up to $225 million in development milestone payments and up to $550 million in sales-based milestone payments for all designated targets under the Pfizer Collaboration Agreement, as well as tiered royalties based on sales. Pfizer paid the Company $1.2 million in December 2019 and $1.0 million in March 2020 relating to adding additional targets into the collaboration. These payments are being recognized over the estimated period of performance.

In September 2015, the Company entered into an Option and License Agreement with Genentech, Inc. and F. Hoffman-La Roche Ltd. (together, Genentech) (the Genentech Agreement). During 2015, the Company received an upfront non-refundable payment of $11.0 million in exchange for use of the Company's technology license and to fund Genentech-related research as defined within the Genentech Agreement. In November 2017, the Company entered into an Amended and Restated Option, License, and Collaboration Agreement with Genentech, Inc. and F. Hoffman-La Roche Ltd. (the Genentech Modification), amending the Genentech Agreement. Under the Genentech Modification, the Company received additional upfront non-refundable payments of $34.5 million to fund Genentech-related research and Genentech has the right to designate up to ten targets. The Company is eligible to receive up to $27.5 million in additional expansion target payments if Genentech exercises its options on all remaining targets. Upfront non-refundable payments are recognized as revenue over the total estimated period of performance. The Company is eligible to receive up to $44.0 million per target in development milestone payments, $52.5 million in regulatory milestone payments and $60.0 million in commercial milestones based on sales as well as tiered royalties based on sales.

Information about contract liabilities, which are recorded as deferred revenue on the condensed consolidated balance sheets, is as follows:

	September 30, 2020	December 31, 2019
Contract liabilities	$ 45,304,459	$ 58,407,407
Revenues recognized in the period from:		
Amounts included in deferred revenue in previous periods	$ 17,318,637	$ 14,335,188

Changes in deferred revenue from December 31, 2019 to September 30, 2020 were due to additions to deferred revenue of $6.4 million related to the Bayer Collaboration Agreement and Pfizer Collaboration Agreement and $19.5 million of revenue recognized on the research collaboration and license agreements.

The aggregate amount of the transaction price allocated to performance obligations that are unsatisfied as of September 30, 2020 was $45.3 million, which is expected to be recognized as revenue for the years ending December 31 are (in millions):

Remainder of 2020	$ 5.8
2021	20.6
2022	14.1
2023	4.8
	$ 45.3

4. Fair Value Measurements

ASC Topic 820, *Fair Value Measurements and Disclosures*, requires disclosure of the fair value of financial instruments held by the Company. ASC 825, *Financial Instruments*, defines fair value and establishes a three-level valuation hierarchy for disclosures of fair value measurement that enhances disclosure requirements for fair value measures. The Company's principal financial instruments comprise cash, marketable securities, accounts receivable, accounts payable, accrued liabilities and long-term debt. The carrying value of all financial instruments approximates fair value. The three levels of valuation hierarchy are defined as follows:

Level 1—Inputs are based upon observable or quoted prices for identical instruments traded in active markets.

Level 2—Inputs are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities. The Company's Level 2 investments consist primarily of corporate notes and bonds and U.S. government and agency securities.

Level 3—Inputs are generally unobservable and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability. The fair values are therefore determined using model-based techniques that include option pricing models, discounted cash flow models, and similar techniques.

In determining fair value, the Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible as well as considers counterparty credit risk in its assessment of fair value.

The Company's marketable securities consist of corporate bonds which are adjusted to fair value at each balance sheet date, based on quoted prices, which are considered Level 2 inputs.

The following is a summary of the Company's available-for-sale securities as of September 30, 2020 and December 31, 2019:

	September 30, 2020				
Description	**Effective Maturity**	**Amortized Cost**	**Gross Unrealized Gains**	**Gross Unrealized Losses**	**Fair Value**
Corporate bonds	2020-2021	$ 135,813,140	$ 811,850	$ (1,204)	$ 136,623,786
Corporate bonds	2021	22,682,016	269,161	—	22,951,177
		$ 158,495,156	$ 1,081,011	$ (1,204)	$ 159,574,963

	December 31, 2019				
Description	**Effective Maturity**	**Amortized Cost**	**Gross Unrealized Gains**	**Gross Unrealized Losses**	**Fair Value**
Corporate bonds	2020	$ 145,359,876	$ 49,722	$ —	$ 145,409,598
Corporate bonds	2021	126,194,004	57,854	—	126,251,858
		$ 271,553,880	$ 107,576	$ —	$ 271,661,456

The following tables summarize the fair values and levels within the fair value hierarchy in which the fair value measurements fall for assets and liabilities measured on a recurring basis:

	September 30, 2020			
Description	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Corporate bonds	$ —	$ 159,574,963	$ —	$ 159,574,963

	December 31, 2019			
Description	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Corporate bonds	$ —	$ 271,661,456	$ —	$ 271,661,456

5. Property, Equipment and Leasehold Improvements

Property, equipment and leasehold improvements consist of the following at:

	September 30, 2020	**December 31, 2019**
Laboratory equipment	$ 10,677,953	$ 8,045,179
Office equipment	1,388,459	865,888
Leasehold improvements	5,006,458	2,809,205
Total	17,072,870	11,720,272
Less: accumulated depreciation and amortization	(5,360,467)	(3,264,861)
Property, equipment and leasehold improvements, net	$ 11,712,403	$ 8,455,411

Depreciation and amortization expense totaled $861,293 and $468,225 for the three months ended September 30, 2020 and 2019, respectively, and $2,113,865 and $1,024,845 for the nine months ended September 30, 2020 and 2019, respectively.

6. Right to Use Assets and Liabilities

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use (ROU) assets and operating lease liabilities in the condensed consolidated balance sheets.

ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. As the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The incremental borrowing rate ranges from 3.2-6.6%. Lease expense for lease payments is recognized on a straight-line basis over the lease term. Some of the Company's leases include options to extend or terminate the lease. The Company includes these options in the recognition of the Company's ROU assets and lease liabilities when it is reasonably certain that the Company will exercise the option.

The Company has operating leases for its corporate office and certain equipment, which expire no later than September 30, 2024. The leases have a weighted average remaining term of 2.2 years.

The components of lease expense were as follows:

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
	2020	**2019**	**2020**	**2019**
Operating lease cost	$ 262,045	$ 173,446	$ 731,477	$ 604,731

Supplemental cash flow information related to leases was as follows:

	Nine Months Ended September 30,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 669,183	$ 399,610
Supplemental non-cash information:		
Right-of-use assets obtained in exchange for new lease obligations	$ 572,413	$ 367,868

Maturities of lease liabilities for operating leases as of September 30, 2020, are as follows:

Remainder of 2020	$ 189,472
2021	1,124,684
2022	1,108,066
Thereafter	12,041
Total lease payments	2,434,263
Less: imputed interest	(143,026)
Total	$ 2,291,237

7. Accrued Expenses

Accrued expenses consisted of the following at:

	September 30, 2020	December 31, 2019
Employee expenses	$ 4,341,221	$ 5,810,723
Research and development expenses	6,939,941	1,186,935
Professional fees and other	862,572	605,246
	$ 12,143,734	$ 7,602,904

8. Long-Term Debt

In August 2013, the Company entered into a Loan Agreement (Loan) and a Stock Subscription Warrant, with Connecticut Innovations, Incorporated (CII). Under the Loan, the Company could draw up to $750,000 for the purpose of purchasing laboratory equipment, information technology equipment and leasehold improvements. Leasehold improvements were limited to $100,000. Interest on the Loan was compounded on a monthly basis at a rate of 7.50% per annum and was required to be paid on a monthly basis beginning on the date of the first draw of funds for 10 months, then with principal payments beginning on June 1, 2015 and payable monthly until the maturity date of July 31, 2019. The Company had the ability to prepay the amount due at any time prior to the maturity date without premium or penalty. The Loan was secured by substantially all of the Company's assets. The Company paid the loan in full in July 2019. Interest expense recorded related to the amortization of the debt discount in the nine months ended September 30, 2019 was $7,210.

In connection with an Assistance Agreement with the State of Connecticut entered into in 2014 (2014 Assistant Agreement) under which all the borrowings by the Company were forgiven in accordance with the 2014 Assistance Agreement, the Company is required to be located in the State of Connecticut through January 2024, with a default penalty of repayment of the full original funding amount of $2.5 million plus liquidated damages of 7.5%.

In June 2018, the Company entered into an Assistance Agreement with the State of Connecticut (2018 Assistance Agreement) to provide funding for the expansion and renovation of laboratory and office space (Project). Under the terms of the 2018 Assistance Agreement, the Company could borrow from the State of Connecticut a maximum of $2.0 million, provided that the funding does not exceed more than 50% of the total Project costs. In September 2018, the Company borrowed $2.0 million under the 2018 Assistance Agreement, bearing interest at 3.25% per annum and interest payments will be required for the first 60 months from the funding date. Thereafter, the loan begins to fully amortize through month 120, maturing in September 2028. According to the terms of the 2018 Assistance Agreement, up to $1.0 million of the funding thereunder can be forgiven if the Company meets certain employment conditions, as defined therein. The Company may also be required to prepay a portion of the loan if the employment conditions are not met. The 2018 Assistance Agreement requires that the Company be located in the State of Connecticut through September 2028 with a default penalty of repayment of the full original funding amount of $2.0 million plus liquidated damages of 7.5% of the total amount of funding received.

Anticipated future minimum payments on long-term debt for the years ending December 31 are:

2023	$	92,480
2024		377,516
Beyond		1,530,004
Total	$	2,000,000

During the three months ended September 30, 2020 and 2019, interest expense was $16,250 and $22,903, respectively. During the nine months ended September 30, 2020 and 2019, interest expense was $48,750 and $69,319, respectively.

9. Equity

Common Stock

In October 2019, the Company entered into an Equity Distribution Agreement, or Distribution Agreement, with Piper Sandler Companies, formerly Piper Jaffray & Co., or Piper Sandler, pursuant to which the Company may offer and sell from time-to-time in an "at-the-market offering," at its option, up to an aggregate of $100.0 million of shares of the Company's common stock through Piper Sandler, as sales agent. During the three and nine months ended September 30, 2020, the Company sold 1,163,074 shares of its common stock resulting in proceeds to the Company of $29.9 million, net of offering costs of $0.9 million.

Share-based Compensation

In September 2018, the Company adopted the 2018 Employee Stock Purchase Plan (the 2018 ESPP) initially providing participating employees with the opportunity to purchase an aggregate of 311,850 shares of the Company's common stock. The number of shares of the Company's common stock reserved for issuance under the 2018 ESPP increased, pursuant to the terms of the 2018 ESPP, by an additional 323,377 shares, equal to 1% of the Company's then-outstanding common stock, effective as of January 1, 2019, and by an additional 390,371 shares, equal to 1% of the Company's then-outstanding common stock, effective as of January 1, 2020. The first offering period under the 2018 ESPP commenced on January 1, 2020. During the three and nine months ended September 30, 2020, the Company issued 11,046 shares of common stock under the 2018 ESPP. As of September 30, 2020, there are 1,014,552 shares remained available for purchase.

All of the Company's employees are eligible to participate in the 2018 ESPP, provided they meet certain employment requirements. On each offering commencement date, each participant will be granted the right to purchase, on the last business day of the offering period, a number of shares of the Company's common stock determined by multiplying $2,083 by the number of full months in the offering period and dividing that product by the closing price of the Company's common stock on the first day of the offering period. On the commencement date of each offering period, each eligible employee may authorize up to a maximum of 15% of the compensation he or she receives during the offering period to be deducted by us during the offering period. Under the terms of the 2018 ESPP, the purchase price shall be determined by the Company's board of directors for each offering period and will be at least 85% of the applicable closing price of the Company's common stock. If the Company's board of directors does not make a determination of the purchase price, the purchase price will be 85% of the lesser of the closing price of the Company's common stock on the first business day of the offering period or the last business day of the offering period.

In the Fourth Amendment to the Company's Incentive Share Plan (the Incentive Plan) adopted in March 2018, the Company was authorized to issue up to an aggregate of 6,199,477 incentive units pursuant to the Incentive Plan. Generally, incentive units were granted at no less than fair value as determined by the board of managers and had vesting periods ranging from one to four years. The Incentive Plan was terminated in September 2018. In September 2018, the Company's board of directors adopted and the Company's stockholders approved the 2018 Stock Incentive Plan (the 2018 Plan), which became effective upon the effectiveness of the registration statement on Form S-1 for the Company's initial public offering. The number of common shares initially available for issuance under the 2018 Plan is the sum of (1) 4,067,007 shares of common stock; plus (2) the number of shares of common stock (up to 1,277,181) issued in respect of incentive units granted under the Incentive Plan that are subject to vesting immediately prior to the effectiveness of the registration statement that expire, terminate or are otherwise surrendered, cancelled, forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right; plus (3) an annual increase on the first day of each fiscal year beginning with the fiscal year ending December 31, 2019 and continuing to, and including, the fiscal year ending December 31, 2028, equal to the lowest of 4,989,593 shares of the Company's common stock, 4% of the number of shares of the Company's common stock outstanding on the first day of the fiscal year and an amount determined by the Company's board of directors. The increase in the number of authorized shares for the fiscal years ending December 31, 2020 and 2019 was 1,561,485 and 1,293,510, respectively. Common shares subject to outstanding equity awards that expire or are terminated, surrendered, or canceled without having been fully exercised or are forfeited in whole or in part shall be available for future grants of awards.

During the nine months ended September 30, 2020, the Company recognized compensation expense of $22,121,591 relating to the issuance of incentive awards, and at September 30, 2020, there was $28,645,194 of compensation expense that is expected to be amortized over a weighted average period of approximately two years.

The fair value of the stock options granted during the nine months ended September 30, 2020 was determined using the Black-Scholes option pricing model with the following assumptions:

	September 30, 2020
Expected volatility	70.3%-74.7%
Expected term (years)	5.3-7.0
Risk free interest rate	0.3%-1.6%
Expected dividend yield	0%
Exercise price	$24.75-$50.00

Given the Company's common stock has not been trading for a sufficient period of time, the Company utilizes a collection of volatilities of peer companies to estimate the expected volatility of its common stock. The expected term is calculated utilizing the simplified method.

The following table provides a summary of the restricted stock grant activity under the Incentive Plan during the nine months ended September 30, 2020. These amounts include restricted stock granted to employees, directors and consultants.

	Shares	Weighted Average Grant Date Fair Value Per Share
Unvested restricted stock at December 31, 2019	576,074	$ 16.00
Vested	(249,719)	$ 16.00
Forfeited	(11,544)	$ 16.00
Unvested restricted stock at September 30, 2020	314,811	$ 16.00

The following table provides a summary of the stock option activity under the 2018 Plan during the nine months ended September 30, 2020. These amounts include stock options granted to employees, directors and consultants.

	Options	Weighted Average Fair Value
Outstanding at December 31, 2019	3,432,198	$ 11.32
Granted	1,341,727	$ 28.20
Exercised	(165,463)	$ 10.76
Forfeited	(79,855)	$ 16.68
Outstanding at September 30, 2020	4,528,607	$ 16.25
Exercisable at September 30, 2020	1,721,470	$ 10.82

The following table provides a summary of the restricted stock unit activity under the 2018 Plan during the nine months ended September 30, 2020. These amounts include restricted stock units granted to employees.

	Shares	Weighted Average Grant Date Fair Value Per Share
Unvested restricted stock units at December 31, 2019	181,372	$ 20.00
Vested	(45,346)	$ 20.00
Forfeited	(2,977)	$ 19.36
Unvested restricted stock units at September 30, 2020	133,049	$ 20.01

At September 30, 2020, there were 281,820 restricted shares under the Incentive Plan, 4,215,253 stock options under the 2018 Plan, and 110,401 restricted stock units under the 2018 Plan that vested and are expected to vest.

10. Income Taxes

The Company's effective tax rate was 0.0% for the three and nine months ended September 30, 2020 and 2019. The primary reconciling items between the federal statutory rate of 21.0% for the three and nine months ended September 30, 2020 and 2019 and the Company's overall effective tax rate of 0.0% was the effect of equity compensation and the valuation allowance recorded against the full amount of its net deferred tax assets.

Valuation allowance is established when it is more likely than not that some portion or all of a deferred tax asset will not be realized. The realization of deferred tax assets depends on the generation of future taxable income during the period in which related temporary differences become deductible.

The Company is subject to tax in the U.S. Federal jurisdiction and the states of Connecticut and Massachusetts. The Company pays franchise tax in the states mentioned above due to its loss position. As a result, there is no state income tax provision recorded for the three and nine months ended September 30, 2020 and 2019.

11. Net Loss Per Common Share

Basic and diluted loss per common share were calculated as follows:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2020	2019	2020	2019
Net loss	$ (30,819,866)	$ (17,675,373)	$ (77,785,576)	$ (49,244,511)
Weighted average number of common shares outstanding, basic and diluted	39,058,294	32,740,486	38,784,569	31,876,074
Net loss per common share	$ (0.79)	$ (0.54)	$ (2.01)	$ (1.54)

The Company's potential dilutive securities have been excluded from the computation of diluted net loss per common share as the effect would be to reduce the net loss per common share. The following common share equivalents have been excluded from the calculations of diluted loss per common share because their inclusion would have been antidilutive for the periods presented above:

	2020	2019
Stock options	4,528,607	3,398,099
Restricted stock	314,811	671,895
Restricted stock units	133,049	181,372
	4,976,467	4,251,366

12. Investment in Equity Method Investee

In June 2019, the Company entered into an agreement to establish a joint venture (Commitment Agreement) with Bayer CropScience LP (Bayer LP) to research, develop and commercialize PROTAC targeted protein degraders for applications in the field of agriculture. In July 2019, the Company and Bayer LP completed the formation of the joint venture entity, Oerth Bio LLC (Oerth), a limited liability corporation. Pursuant to the terms of the Commitment Agreement, the Company made an in-kind intellectual property contribution to Oerth in the form of a license to certain of the Company's proprietary technology. Bayer LP has made a $56.0 million total cash commitment to Oerth and an in-kind intellectual property contribution. The Company and Bayer LP each hold an ownership interest in Oerth initially representing 50% of the ownership interests. A 15% ownership interest of Oerth is reserved for the future grant of incentive units to employees and service providers of Oerth.

Under the Commitment Agreement, the Company has no obligation to provide any additional funding and the Company's ownership interest will not be diluted from future contributions from Bayer LP. The Company has no exposure to future losses of Oerth. The activities of Oerth are controlled by a management board under the joint control of the Company and Bayer LP. As Oerth is jointly controlled by the Company and Bayer LP, the Company accounts for its 50% interest using the equity method of accounting. The Company determined that Oerth is a variable interest entity and, accordingly, the Company has evaluated the significant activities of Oerth under the variable interest entity model and concluded that the significant activities consist primarily of research and development activities and, as the Company does not have the sole power to direct such activities, the Company is not the primary beneficiary.

The Company will also provide to Oerth compensated research and development services and administrative services through a separate agreement. The services rendered by the Company during the three and nine months ended September 30, 2020 and 2019 were insignificant.

Total operating expenses and net loss of Oerth for the three months ended September 30, 2020 was $2.3 million. Total operating expenses and net loss of Oerth for the nine months ended September 30, 2020 was $4.9 million.

The Company's initial investment in Oerth was $49.4 million which represented the fair value of shares received in exchange for the contribution of the license. The elimination of the intra-entity profit component of the revenue resulted in a reduction in the balance of the investment in Oerth, bringing its initial carrying value of the investment to $24.7 million. After recognition of its proportionate share of Oerth's losses for the period, the carrying value of the investment is now $0 and, as a result, no additional losses were recorded against the carrying value of the investment during the three and nine months ended September 30, 2020.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion and analysis of financial condition and operating results together with our condensed consolidated financial statements and the related notes appearing elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2019 filed on March 16, 2020. This discussion contains forward-looking statements that involve risks and uncertainties. As a result of many factors, such as those set forth in the section titled "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q, our actual results may differ materially from those anticipated in or implied by these forward-looking statements. For convenience of presentation some of the numbers have been rounded in the text below.

Overview

We are a clinical-stage biopharmaceutical company dedicated to improving the lives of patients suffering from debilitating and life-threatening diseases through the discovery, development and commercialization of therapies to degrade disease-causing proteins. We use our proprietary technology platform to engineer proteolysis targeting chimeras, or PROTAC targeted protein degraders, that are designed to harness the body's own natural protein disposal system to selectively remove disease-causing proteins. We believe that our targeted protein degradation approach is a therapeutic modality that may provide distinct advantages over existing modalities, including traditional small molecule therapies and gene-based medicines. Our small molecule PROTAC technology has the potential to address a broad range of intracellular disease targets, including those representing the up to 80% of proteins that cannot be addressed by existing small molecule therapies, commonly referred to as "undruggable" targets. We are using our PROTAC platform to build an extensive pipeline of protein degradation product candidates to target diseases in oncology, neuroscience, and other therapeutic areas.

Our two lead product candidates are ARV-110 and ARV-471. We are developing ARV-110, a PROTAC protein degrader targeting the androgen receptor protein, or AR, for the treatment of men with metastatic castration-resistant prostate cancer, or mCRPC. We initiated a Phase 1 clinical trial of ARV-110 in March 2019. We are also developing ARV-471, a PROTAC protein degrader targeting the estrogen receptor protein, or ER, for the treatment of patients with locally advanced or metastatic ER positive / HER2 negative breast cancer. We initiated a Phase 1 clinical trial for ARV-471 in August 2019. In the fourth quarter of 2019 and the first quarter of 2020, we amended the protocols for each of our Phase 1 clinical trials for ARV-110 and ARV-471, respectively, to include the Phase 2 expansion cohorts. In October 2020, we initiated the Phase 2 expansion for ARV-110.

In October 2019, we announced initial safety, tolerability and pharmacokinetic data from the ongoing dose escalation portion of the Phase 1/2 clinical trial for each of ARV-110 and ARV-471. And in May 2020, we announced updated data from the dose escalation portion of the Phase 1/2 clinical trial for ARV-110 and provided an interim update on our progress with ARV-471.

The initial data from the October 2019 announcement regarding the Phase 1/2 clinical trials showed dose proportionality for ARV-110 and that exposures of both ARV-110 and ARV-471 have reached levels associated with tumor growth inhibition in preclinical studies. In addition, the data disclosed in October 2019 for both ARV-110 and ARV-471 showed that each dose tested had been well tolerated and that no dose-limiting toxicities and no grade 2, 3, or 4 related adverse events had been observed.

The data from the May 2020 announcement regarding the dose escalation portion of our Phase 1/2 clinical trial of ARV-110 showed evidence of in-tumor AR reduction. As of the April 20, 2020 data cut-off, 20 patients were evaluable for prostate-specific antigen, or PSA, response, including 12 patients treated at 140 mg or higher. These 12 patients exclude one patient who received two weeks of therapy prior to discontinuing due to a rosuvastatin-related dose limiting toxicity.

Of the 12 patients treated at 140 mg and above, circulating tumor DNA analysis of five patients showed AR forms (L702H point mutations and AR-V7 splice variants) not degradable by ARV-110 in preclinical studies. In the group of seven remaining patients who had degradable forms of AR (other AR point mutations, AR amplification and wildtype AR), two patients achieved confirmed PSA responses that remained ongoing.

One of these patients had a 74% decline from baseline in PSA and remained without progression after 30 weeks, as of the data cut-off. This patient did not have measurable disease at baseline for assessment by Response Evaluation Criteria in Solid Tumors, or RECIST, a standardized set of rules for response assessment based on tumor shrinkage. The second patient had both a deep PSA response (97% decline from baseline) and a confirmed partial RECIST response (80% decrease from baseline in tumor mass) and remains without progression after 18 weeks, as of the data cut-off. Both responses, which were in patients at the 140 mg dose, were achieved by ARV-110 despite prior treatment with enzalutamide, abiraterone, chemotherapy and other therapies. Tumors from both patients have H875Y and T878A point mutations in AR, which are known to drive resistance to current standard of care treatments and have been degraded by ARV-110 in preclinical studies. In addition to these two patients, PSA reductions were observed in other patients but did not meet a 50% reduction in PSA threshold at data cut-off, and four patients remained on ARV-110 without radiographic progression for at least 20 weeks.

A potential drug-drug interaction between ARV-110 and rosuvastatin, or ROS, was identified during the trial. Of the 22 patients enrolled, two had concurrent use of ROS. One patient receiving 280 mg ARV-110 experienced a Grade 4 dose-limiting toxicity of elevated aspartate transaminase/alanine transaminase, or AST/ALT, liver enzymes followed by acute renal failure. The second patient, receiving 70 mg ARV-110, experienced a Grade 3 AST/ALT elevation, which resolved after the removal of ROS, and the patient was retreated with ARV-110. Follow-up exploratory findings indicate that ROS concentrations, but not ARV-110 concentrations, were elevated in both patients who had liver function test increases. Subsequent in vitro transport pump studies indicate that ARV-110 inhibits breast cancer resistant pump transporter, of which ROS is a substrate. Following the initial data that supported a potential interaction with ROS, concomitant use of ROS was precluded, and as of the cut-off date no other ARV-110 related Grade 3 or 4 adverse events had been reported. Six other patients had, as of the data cut-off date, received concomitant non-ROS statins without AST/ALT adverse events.

The data from the May 2020 announcement regarding the dose escalation portion of our Phase 1/2 clinical trial of ARV-471 reported that no dose limiting toxicities had been observed, that the pharmacokinetics of ARV-471 had been generally dose proportional, and that we had seen early evidence of ER degradation in the clinical trial.

The Phase 1 dose escalation portion for each of the Phase 1/2 clinical trials of ARV-110 and ARV-471 continues and we have initiated dosing at a first dose level in a Phase 2 cohort expansion for ARV-110. We expect to provide updates on each of our clinical programs in December of 2020.

In September 2020, we entered into a collaboration and supply agreement with Pfizer in connection with a planned Phase 1b cohort expansion evaluating ARV-471 in combination with Pfizer's Ibrance® (palbociclib), an oral CDK4/6 inhibitor. We will be the trial sponsor, and Pfizer will provide palbociclib. The study will evaluate the safety and tolerability of ARV-471 in combination with palbociclib and identify the recommended combination dose of ARV-471 for use with palbociclib. We expect to initiate the study in the fourth quarter of 2020.

In addition to our expected 2020 updates, in 2021 Arvinas also expects to initiate the first of potentially two Phase 1b investigations of ARV-110 in combination with standard of care agents for mCRPC (e.g., abiraterone), share interim data from the Phase 2 dose expansion trial of ARV-110, and initiate a Phase 2 dose expansion of ARV-471. We expect to share data from the Phase 1b cohort expansion of ARV-471 in combination with palbociclib in the second half of 2021. We also expect to file an investigational new drug (IND) application for ARV-766, an androgen receptor degrader, in the first half of 2021.

A novel strain of coronavirus, or COVID-19, was first identified in December 2019, and subsequently declared a global pandemic by the World Health Organization on March 11, 2020. As a result of the outbreak, many companies have experienced disruptions in their operations and in markets served. We have instated some and may take additional precautionary measures intended to help ensure our employees well-being and minimize business disruption. We temporarily shut down our laboratories in mid-March 2020 and initiated work with biology contract research organizations, or CROs, but have since reopened our laboratories. Our office-based employees continue to work remotely. We considered the impact of COVID-19 on the assumptions and estimates used and determined that there were no material adverse impacts on our results of operations and financial position as of September 30, 2020. The full extent of the future impacts of COVID-19 on our operations is uncertain. A prolonged outbreak could have a material adverse impact on our financial results and business operations, including the timing and our ability to complete certain clinical trials and other efforts required to advance our preclinical pipeline.

We commenced operations in 2013, and our operations to date have been limited to organizing and staffing our company, business planning, raising capital, conducting discovery and research activities, filing patent applications, identifying potential product candidates, undertaking preclinical studies, establishing arrangements with third parties for the manufacture of initial quantities of our product candidates and conducting early-stage clinical trials. To date, we have not generated any revenue from product sales and have financed our operations primarily through sales of our equity interests, proceeds from our collaborations, grant funding and debt financing. Through September 30, 2020, we raised approximately $418.6 million in gross proceeds from the sale of common stock, the exercise of stock options, and the sale of Series A, Series B and Series C convertible preferred units, and had received an aggregate of $116.4 million in payments from collaboration partners, grant funding and partially forgivable loans from the State of Connecticut.

We are a clinical-stage company. ARV-110 and ARV-471 are each in Phase 1/2 clinical trials and our other drug discovery activities are at the research and preclinical development stages. Our ability to generate revenue from product sales sufficient to achieve profitability will depend heavily on the successful development and eventual commercialization of one or more of our product candidates. Since inception, we have incurred significant operating losses. We expect to continue to incur significant expenses and increasing operating losses for at least the next several years. Our net loss was $77.8 million for the nine months ended September 30, 2020, $70.3 million for the year ended December 31, 2019 and $41.5 million for the year ended December 31, 2018. As of September 30, 2020, we had an accumulated deficit of $450.3 million.

Our total operating expenses were $101.2 million for the nine months ended September 30, 2020, $94.5 million for the year ended December 31, 2019 and $58.1 million for the year ended December 31, 2018. We anticipate that our expenses will increase substantially due to costs associated with our anticipated clinical activities for ARV-110 and ARV-471, development activities associated with our other product candidates, research activities in oncology, neurological and other disease areas to expand our pipeline, hiring additional personnel in research, clinical operations, quality and other functional areas, increased expenses incurred with contract manufacturing organizations, or CMOs, to supply us with product for our preclinical studies and clinical trials, as well as other associated costs including the management of our intellectual property portfolio.

We do not expect to generate revenue from sales of any product for many years, if ever. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research or product development programs or any future commercialization efforts, or to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us.

Financial Operations Overview

Revenue

To date, we have not generated any revenue from product sales and do not expect to generate any revenue from the sale of products in the foreseeable future. Our revenues to date have been generated through research collaboration and license agreements. Revenue is recognized ratably over our expected performance period under each agreement. We expect that any revenue for the next several years will be derived primarily from our current collaboration agreements and any additional collaborations that we may enter into in the future. To date, we have not received any royalties under any of our collaboration agreements.

Genentech License Agreement

In September 2015, we entered into an Option and License Agreement with Genentech, Inc. and F. Hoffmann-La Roche Ltd, collectively referred to as Genentech, focused on PROTAC targeted protein degrader discovery and research for target proteins, or Targets, based on our proprietary platform technology, other than excluded Targets as described below. This collaboration was expanded in November 2017 through an Amended and Restated Option, License and Collaboration Agreement, which we refer to as the Restated Genentech Agreement.

Under the Restated Genentech Agreement, Genentech has the right to designate up to ten Targets for further discovery and research utilizing our PROTAC platform technology. Genentech may designate as a Target any protein to which a PROTAC targeted protein degrader, by design, binds to achieve its mechanism of action, subject to certain exclusions. Genentech also has the right to remove a Target from the collaboration and substitute a different Target that is not an excluded Target at any time prior to our commencing research on such Target or in certain circumstances following commencement of research by us.

At the time we entered into the original agreement with Genentech we received an upfront payment of $11.0 million, and at the time we entered into the Restated Genentech Agreement, we received an additional $34.5 million in upfront payments and expansion target payments. We are eligible to receive up to an aggregate of $27.5 million in additional expansion target payments if Genentech exercises its options for all remaining Targets. We are also eligible to receive payments aggregating up to $44.0 million per Target upon the achievement of specified development milestones; payments aggregating up to $52.5 million per Target (assuming approval of two indications) subject to the achievement of specified regulatory milestones; and payments aggregating up to $60.0 million per PROTAC targeted protein degrader directed against the applicable Target, subject to the achievement of specified sales milestones. These milestone payments are subject to reduction if we do not have a valid patent claim covering the licensed PROTAC targeted protein degrader at the time the milestone is achieved. We are also eligible to receive, on net sales of licensed PROTAC targeted protein degraders, mid-single digit royalties, which may be subject to reductions.

Pfizer Collaboration Agreement

In December 2017, we entered into a Research Collaboration and License Agreement with Pfizer, Inc., or Pfizer, setting forth our collaboration to identify or optimize PROTAC targeted protein degraders that mediate for degradation of Targets, using our proprietary platform technology that are identified in the agreement or subsequently selected by Pfizer, subject to certain exclusions. We refer to this agreement as the Pfizer Collaboration Agreement.

Under the Pfizer Collaboration Agreement, Pfizer has designated a number of initial Targets. For each identified Target, we and Pfizer will conduct a separate research program pursuant to a research plan. Pfizer may make substitutions for any of the initial Target candidates, subject to the stage of research for such Target.

In the year ended December 31, 2018, we received an aggregate of $28.0 million in upfront payments and certain additional payments under the terms of the Pfizer Collaboration Agreement. We are also eligible to receive up to an additional $37.5 million in non-refundable option payments if Pfizer exercises its options for all Targets under the agreement. In the nine months ended September 30, 2020 and the year ended December 31, 2019, we received an aggregate of $1.0 million and $4.0 million, respectively, for option and substitution target payments under the agreement. Pfizer has also elected to exercise an option as of September 30, 2020 for $2.4 million, for which the payment was received in October 2020. We are also entitled to receive up to $225.0 million in development milestone payments and up to $550.0 million in sales-based milestone payments for all designated Targets under the agreement, as well as mid- to high-single digit tiered royalties based on sales of PROTAC targeted protein degrader-related products, which may be subject to reductions.

Bayer Collaboration Agreement

In June 2019, we entered into a collaboration agreement with Bayer AG, which we refer to as the Bayer Collaboration Agreement, setting forth our collaboration to identify or optimize PROTAC targeted protein degraders that mediate the degradation of Targets, using our proprietary platform technology, that are selected by Bayer, subject to certain exclusions and limitations. The Bayer Collaboration Agreement became effective in July 2019.

Under the Bayer Collaboration Agreement, we and Bayer will conduct a research program pursuant to separate research plans mutually agreed to by us and Bayer and tailored to each Target selected by Bayer. Bayer may make substitutions for any such initial Target candidates, subject to certain conditions and based on the stage of research for such Target. During the term of the Bayer Collaboration Agreement, we are not permitted, either directly or indirectly, to design, identify, discover or develop any small molecule pharmacologically-active agent whose primary mechanism of action is, by design, directed to the inhibition or degradation of any Target selected or reserved by Bayer, or grant any license, covenant not to sue or other right to any third party in the field of human disease under the licensed intellectual property for the conduct of such activities.

Under the terms of the Bayer Collaboration Agreement, we received an aggregate upfront non-refundable payment of $17.5 million, plus an additional $1.5 million in research funding payments. Bayer is committed to fund an additional $10.5 million, of which $3.0 million was received in the nine months ended September 30, 2020, in research funding payments through 2022, subject to potential increases if our costs for research activities exceed the research funding payments allocated to a Target and certain conditions are met. We are also eligible to receive up to $197.5 million in development milestone payments and up to $490.0 million in sales-based milestone payments for all designated Targets. In addition, we are eligible to receive, on net sales of PROTAC targeted protein degrader-related products, mid-single digit to low-double digit tiered royalties, which may be subject to reductions.

Operating Expenses

Our operating expenses since inception have consisted solely of research and development costs and general and administrative costs.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our discovery efforts, and the development of our product candidates, and include:

- salaries, benefits and other related costs, including stock-based compensation expense, for personnel engaged in research and development functions;
- expenses incurred under agreements with third parties, including contract research organizations and other third parties that conduct research and preclinical activities on our behalf as well as third parties that manufacture our product candidates for use in our preclinical studies and clinical trials;
- costs of outside consultants, including their fees, stock-based compensation and related travel expenses;
- the costs of laboratory supplies and developing preclinical study and clinical trial materials;
- facility-related expenses, which include direct depreciation costs of equipment and allocated expenses for rent and maintenance of facilities and other operating costs; and
- third-party licensing fees.

We expense research and development costs as incurred.

We typically use our employee and infrastructure resources across our development programs, and as such, do not track all our internal research and development expenses on a program-by-program basis. The following table summarizes our research and development expenses for our AR program, ER program and all other platform and exploratory research and development costs:

(in thousands)	For the Three Months Ended September 30, 2020	For the Three Months Ended September 30, 2019	For the Nine Months Ended September 30, 2020	For the Nine Months Ended September 30, 2019
AR program costs	$ 7,031	$ 2,871	$ 16,292	$ 8,819
ER program costs	6,234	1,108	12,926	4,508
Other research and development costs	16,748	12,609	45,938	33,452
Total research and development costs	$ 30,013	$ 16,588	$ 75,156	$ 46,779

Research and development activities are central to our business model. We expect that our research and development expenses will continue to increase substantially for the foreseeable future as we conduct clinical trials for ARV-110 and ARV-471 and continue to discover and develop additional product candidates.

We cannot reasonably estimate or determine with certainty the duration and costs of future clinical trials of ARV-110 and ARV-471 or any other product candidate we may develop or if, when, or to what extent we will generate revenue from the commercialization and sale of any product candidate for which we obtain marketing approval. We may never succeed in obtaining marketing approval for any product candidate. The successful development and commercialization of our product candidates is highly uncertain. This is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- successful completion of preclinical studies;
- successful initiation of clinical trials;
- successful patient enrollment in and completion of clinical trials;
- receipt and related terms of marketing approvals from applicable regulatory authorities;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates;
- making arrangements with third-party manufacturers, or establishing manufacturing capabilities, for both clinical and commercial supplies of our product candidates;
- establishing sales, marketing and distribution capabilities and launching commercial sales of our products, if and when approved, whether alone or in collaboration with others;
- acceptance of our products, if and when approved, by patients, the medical community and third-party payors;
- obtaining and maintaining third-party coverage and adequate reimbursement;
- maintaining a continued acceptable safety profile of the products following approval; and
- effectively competing with other therapies.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the U.S. Food and Drug Administration, or FDA, or another regulatory authority were to require us to conduct clinical trials beyond those that we anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in our clinical trials due to patient enrollment or other reasons, we would be required to expend significant additional financial resources and time on the completion of clinical development.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in our executive, finance, business development and administrative functions. General and administrative expenses also include legal fees relating to intellectual property and corporate matters; professional fees for accounting, auditing, tax and consulting services; insurance costs; travel expenses; and facility-related expenses, which include direct depreciation costs and allocated expenses for rent and maintenance of facilities and other operating costs.

We expect that our general and administrative expenses will increase in the future as we increase our personnel headcount to support increased research and development activities relating to our product candidates. We also expect to incur increased expenses associated with being a public company, including costs of accounting, audit, legal, regulatory and tax-related services associated with maintaining compliance with Nasdaq and Securities and Exchange Commission requirements; director and officer insurance costs; and investor and public relations costs.

Interest Income (Expense)

Interest income consists of interest earned on our cash, cash equivalents and short-term investments. Interest income has decreased in 2020 primarily due to the utilization of a portion of our cash reserves and lower interest rates. Interest expense consists of interest paid or accrued on our outstanding debt. Interest expense was approximately $48,000 and $69,000 for the nine months ended September 30, 2020 and 2019, respectively. Interest expense has decreased in 2020 due to one loan being fully paid off in July 2019.

Income Taxes

Since our inception in 2013, we have not recorded any U.S. federal or state income tax benefits for the net losses we have incurred in any year or for our federal earned research and development tax credits, due to our uncertainty of realizing a benefit from those items. As of December 31, 2019, we had federal net operating loss carryforwards of $103.5 million, which begin to expire in 2033. As of December 31, 2019, we also had federal and state research and development tax credit carryforwards of $5.1 million and $2.6 million, respectively, which begin to expire in 2033 and 2028, respectively.

As of September 30, 2020, Arvinas, Inc. had four wholly owned subsidiaries organized as C-corporations: Arvinas Operations, Inc., Arvinas Androgen Receptor, Inc., Arvinas Estrogen Receptor, Inc., and Arvinas Winchester, Inc. Prior to December 31, 2018, these subsidiaries were separate filers for federal tax purposes. Net operating loss carryforwards are generated from the C-corporation subsidiaries' filings. We have provided a valuation allowance against the full amount of the deferred tax assets since, in the opinion of management, based upon our earnings history, it is more likely than not that the benefits will not be realized.

Critical Accounting Policies and Use of Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our condensed consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States. The preparation of our condensed consolidated financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, costs and expenses and the disclosure of contingent assets and liabilities in our condensed consolidated financial statements. We base our estimates on historical experience, known trends and events and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

For a discussion of our significant accounting policies and recent accounting pronouncements, see Note 2 to our condensed consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q and Note 2 to the financial statements included in our consolidated financial statements as of December 31, 2019 and 2018 and for the years then ended included in our Annual Report on Form 10-K for the year ended December 31, 2019 filed on March 16, 2020.

Results of Operations

Comparison of Three Months Ended September 30, 2020 and 2019

Revenues

Revenues for the three months ended September 30, 2020 were $7.6 million, as compared to $30.1 million for the three months ended September 30, 2019. Revenue for the three months ended September 30, 2019 included $24.7 million recognized for the contribution of a license to Oerth Bio LLC, or Oerth, the joint venture entity created in connection with the Bayer Collaboration Agreement. The balance of the revenues increased by $2.2 million in 2020 over the prior year primarily due to the revenues related to the Bayer Collaboration Agreement, which was initiated in the third quarter of 2019, and an increase in license and rights to technology fees and research and development activities related to the Pfizer Collaboration Agreement.

Research and Development Expenses

Research and development expenses for the three months ended September 30, 2020 were $30.0 million, compared with $16.6 million for the three months ended September 30, 2019. The increase of $13.4 million was primarily due to an increase in our continued investment in our platform and exploratory programs of $4.1 million and an increase in expenses related to our ER program of $5.1 million and AR program of $4.2 million. The increase in spending overall of our programs was primarily due to increased personnel and personnel costs utilized across all of our programs of $4.1 million, including $2.2 million related to stock compensation expense. Direct expenses related to our platform and exploratory targets increased by $1.9 million as we expanded and progressed the protein targets in the exploratory phase. Clinical trial and related drug manufacturing costs for our AR and ER programs increased by $7.1 million in 2020.

General and Administrative Expenses

General and administrative expenses were $9.3 million for the three months ended September 30, 2020, compared with $8.0 million for the three months ended September 30, 2019. The increase of $1.3 million was primarily due to an increase of personnel and facility related costs of $2.4 million, including $1.5 million related to stock compensation expense, partially offset by a decrease in professional fees of $1.1 million, primarily related to legal fees.

Other Income (Expenses)

Other income was $0.9 million for the three months ended September 30, 2020, compared with $1.5 million for the three months ended September 30, 2019. The decrease of $0.6 million was primarily due to lower interest income and refundable research and development credits from the State of Connecticut. The decrease in interest income was due to lower interest rates and a decrease in our marketable securities investments.

Comparison of Nine Months Ended September 30, 2020 and 2019

Revenues

Revenues for the nine months ended September 30, 2020 were $19.6 million, as compared with $38.1 million for the nine months ended September 30, 2019. Revenues for the nine months ended September 30, 2019 included $24.7 million recognized for the contribution of a license to Oerth. The balance of the revenues increased by $6.2 million in 2020 over the prior year primarily due to the revenues related to the Bayer Collaboration Agreement, which was initiated in the third quarter of 2019, and an increase in license and rights to technology fees and research and development activities related to the Pfizer Collaboration Agreement.

Research and Development Expenses

Research and development expenses for the nine months ended September 30, 2020 were $75.2 million, compared with $46.8 million for the nine months ended September 30, 2019. The increase of $28.4 million was primarily due to an increase in our continued investment in our platform and exploratory programs of $12.5 million, expenses related to our ER program of $8.4 million and AR program of $7.5 million. The increase in spending was due to increased personnel and personnel costs utilized across all of our programs of $10.0 million, direct costs related to our ER program of $7.9 million and our AR program of $6.2 million and direct expenses related to our platform and exploratory targets of $4.3 million. The increase in personnel and personnel costs was attributed to an increase in stock compensation expense of $3.9 million and an increase in headcount. The increase in our ER and AR program costs was primarily due to the increased costs associated with clinical trial and related drug manufacturing of $15.4 million, partially offset by a decrease in lead optimization and IND-enabling costs for these programs. The increase in our platform and exploratory targets was due to the expanded number and progression of protein targets in the exploratory phase.

General and Administrative Expenses

General and administrative expenses were $26.1 million for the nine months ended September 30, 2020, compared with $20.0 million for the nine months ended September 30, 2019. The increase of $6.1 million was primarily due to an increase of personnel and facility related costs of $6.7 million, including $3.4 million related to stock compensation expense, partially offset by a decrease in professional fees of $1.1 million, primarily related to legal fees.

Other Income (Expenses)

Other income was $3.9 million for the nine months ended September 30, 2020, compared with $4.2 million for the nine months ended September 30, 2019. The decrease of $0.3 million was primarily related to a decrease in interest income due to lower interest rates and a decrease in our marketable securities investments.

Liquidity and Capital Resources

Sources of Liquidity

We do not currently have any approved products and have never generated any revenue from product sales. To date, we have financed our operations primarily through the sale of equity interests and through payments from collaboration partners, grant funding and loans from the State of Connecticut. Through September 30, 2020, we raised approximately $418.6 million in gross proceeds from the sale of common stock, and Series A, Series B and Series C convertible preferred units, and had received an aggregate of $116.4 million in payments from collaboration partners, grant funding and forgivable and partially forgivable loans from the State of Connecticut. In October 2018, we completed our initial public offering in which we issued and sold an aggregate of 7,700,482 shares of common stock, including 200,482 additional shares of common stock upon the exercise in part by the underwriters of their option to purchase additional shares at a public offering price of $16.00 per share, for aggregate gross proceeds of $123.2 million before underwriting discounts and commissions and expenses. In July 2019, we sold 1,346,313 shares of common stock to Bayer AG for aggregate gross proceeds of $32.5 million. In November 2019, we completed a follow-on offering in which we issued 5,227,273 shares of common stock at a public offering price of $22.00 per share, for aggregate gross proceeds of $115.0 million before fees and expenses. In October 2019, we entered into an Equity Distribution Agreement with Piper Sandler Companies (formerly Piper Jaffray & Co.), or Piper Sandler, pursuant to which we may offer and sell from time-to-time in an “at-the-market offering,” at our option, up to an aggregate of $100.0 million of shares of our common stock through Piper Sandler, as sales agent. In September 2020, we sold 1,163,074 shares of common stock in an at-the-market offering for aggregate gross proceeds of $30.8 million.

Cash Flows

Our cash, cash equivalents and marketable securities totaled $248.6 million as of September 30, 2020 and $280.9 million as of December 31, 2019. We had outstanding loan balances of $2.0 million as of September 30, 2020 and December 31, 2019.

The following table summarizes our sources and uses of cash for the period presented:

	For the Nine Months Ended September 30,	
(in thousands)	**2020**	**2019**
Net cash used in operating activities	$ (60,736)	$ (24,448)
Net cash provided by investing activities	107,388	2,331
Net cash provided by financing activities	33,126	31,062
Increase in cash and cash equivalents	$ 79,778	$ 8,945

Operating Activities

Net cash used in operating activities for the nine months ended September 30, 2020 was $60.7 million, primarily due to our net loss of $77.8 million and a reduction in deferred revenue of $13.1 million, partially offset by non-cash charges of $25.9 million and an increase in accrued expenses and accounts payable of $4.3 million. The reduction in deferred revenue was primarily due to $19.6 million of revenue recognized in the period, partially offset by $6.5 million in payments received from collaboration partners. Non-cash charges were primarily stock compensation expense of $22.1 million, depreciation and amortization of $2.1 million, and net accretion of bond discounts/premiums of $1.4 million.

Net cash used in operating activities for the nine months ended September 30, 2019 was $24.4 million, primarily due to our net loss of $49.2 million, partially offset by an increase in deferred revenue of $8.5 million and non-cash charges of $16.5 million. The increase in deferred revenue was due to the payments received from the Bayer Collaboration Agreement, partially offset by revenue recognized in the period. Non-cash charges were primarily stock compensation expense of $15.0 million and depreciation and amortization of $1.0 million.

Investing Activities

Net cash provided by investing activities for the nine months ended September 30, 2020 was $107.4 million, attributable to the maturities and sales of marketable securities in excess of new purchases of marketable securities of $112.0 million, partially offset by purchases of property and equipment of $4.6 million.

Net cash provided by investing activities for the nine months ended September 30, 2019 was $2.3 million, attributable to the maturities of marketable securities in excess of new purchases of marketable securities of $6.8 million, partially offset by purchases of property and equipment of $4.5 million.

Financing Activities

Net cash provided by financing activities for the nine months ended September 30, 2020 of $33.1 million was attributable to the proceeds from the sale of shares of our common stock in an at-the-market offering of $29.9 million, net of expenses, and proceeds from the exercise of stock options of $3.2 million.

Net cash provided by financing activities for the nine months ended September 30, 2019 was $31.1 million, attributable to proceeds from the sale of common stock to Bayer for $29.5 million and the exercise of stock options for $1.8 million, partially offset by payments on our long-term debt of $0.2 million.

Funding Requirements

Since our inception, we have incurred significant operating losses. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future as we advance the preclinical and clinical development of our product candidates. In addition, we expect to continue to incur additional costs associated with operating as a public company.

Specifically, we anticipate that our expenses will increase substantially if and as we:

- continue a Phase 1/2 clinical trial of our product candidate, ARV-110, and initiate one or more Phase 1b cohort expansions of ARV-110 in combination with standard of care agents, in men with mCRPC;
- continue a Phase 1/2 clinical trial of our product candidate, ARV-471, and initiate a Phase 1b cohort expansion of ARV-471 in combination with palbociclib, in patients with locally advanced or metastatic ER positive / HER2 negative breast cancer;
- apply our PROTAC platform to advance additional product candidates into preclinical and clinical development;
- expand the capabilities of our PROTAC platform;
- seek marketing approvals for any product candidates that successfully complete clinical trials;
- ultimately establish a sales, marketing and distribution infrastructure and scale up external manufacturing capabilities to commercialize any products for which we may obtain marketing approval;
- expand, maintain and protect our intellectual property portfolio;
- hire additional development, including clinical and regulatory, and scientific personnel; and
- add operational, financial and management information systems and personnel to support our research, product development and future commercialization efforts and support our operations as a public company.

As of September 30, 2020, we had $248.6 million in cash, cash equivalents and marketable securities. We believe that our cash, cash equivalents and marketable securities as of September 30, 2020 will enable us to fund our planned operating expenses and capital expenditure requirements into 2022. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the progress, costs and results of our Phase 1/2 clinical trial for ARV-110 and our Phase 1/2 clinical trial for ARV-471, including potentially two Phase 1b investigations of ARV-110 in combination with standard of care agents for mCRPC and a Phase 1b cohort expansion of ARV-471 in combination with palbociclib, and any future clinical development of ARV-110 and ARV-471;
- the scope, progress, costs and results of preclinical and clinical development for our other product candidates and development programs;

- the number of, and development requirements for, other product candidates that we pursue, including our other oncology and neurodegenerative research programs;
- the success of our collaborations with Pfizer, Genentech and Bayer;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims; and
- our ability to establish collaboration arrangements with other biotechnology or pharmaceutical companies on favorable terms, if at all, for the development or commercialization of our product candidates.

As a result of these anticipated expenditures, we will need to obtain substantial additional financing in connection with our continuing operations. Until such time, if ever, as we can generate substantial revenue from product sales, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. Although we may receive potential future payments under our collaborations with Pfizer, Genentech and Bayer, we do not currently have any committed external source of funds. Adequate additional funds may not be available to us on acceptable terms, or at all. If we are unable to raise capital when needed or on attractive terms, we may be required to delay, limit, reduce or terminate our research, product development programs or any future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, our stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights as common stockholders. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures or declaring dividends.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us.

Borrowings

In August 2013, we entered into a Loan Agreement, or Loan, with Connecticut Innovations, Incorporated, or CII, the strategic venture capital arm and a component unit of the State of Connecticut. Under the Loan, we borrowed $750,000 for the purchase of laboratory equipment, information technology equipment and leasehold improvements. Interest on the Loan was compounded on a monthly basis at a rate of 7.50% per annum. The Loan provided for monthly, interest-only payments for ten months. Beginning on June 1, 2015 we were required to make monthly principal and interest payments through July 31, 2019. We could have prepaid the amount due at any time without premium or penalty. The Loan was secured by substantially all of our assets. We paid the loan in full in July 2019. In connection with the issuance of the Loan, we granted CII a warrant to purchase 33,881 of our Series A convertible preferred units at a purchase price of $0.6811 per unit, with a seven-year term from the date of issuance. The warrant was exercised in July 2018.

In January 2014, we entered into an Assistance Agreement with the State of Connecticut, or the 2014 Assistance Agreement. Under the terms of the 2014 Assistance Agreement, we borrowed $2.5 million. Borrowings under the 2014 Assistance Agreement were forgivable if we maintained a minimum number of full-time jobs in the State of Connecticut for a minimum period at a minimum annual salary. Effective in March 2016, the full principal amount under the 2014 Assistance Agreement was forgiven. While borrowings under the 2014 Assistance Agreement have been forgiven, we remain subject to an ongoing covenant to be located in the State of Connecticut through January 2024. Upon violation of this covenant we would be required to repay the full original funding amount of $2.5 million plus liquidated damages of 7.50%.

In June 2018, we entered into an additional Assistance Agreement with the State of Connecticut, or the 2018 Assistance Agreement, to provide funding for the expansion and renovation of laboratory and office space. Under the terms of the 2018 Assistance Agreement, we borrowed from the State of Connecticut the maximum amount of $2.0 million in September 2018. The funding cannot exceed more than 50% of the total costs of the expansion and renovation.

Borrowings under the 2018 Assistance Agreement bear an interest rate of 3.25% per annum and interest payments are required for the first 60 months from the funding date. Interest expense related to the Assistance Agreement is expected to be $65,000 annually for the first five years. Thereafter, the loan begins to fully amortize through month 120, maturing in September 2028. Up to $1.0 million of the funding can be forgiven if we meet certain employment conditions. We may be required to prepay a portion of the loan if the employment conditions are not met. The 2018 Assistance Agreement requires that we be located in the State of Connecticut through September 2028 with a default penalty of repayment of the full original funding amount of $2.0 million plus liquidated damages of 7.5% of the total amount of funding received.

Off-Balance Sheet Arrangements

We have not entered into any off-balance sheet arrangements.

Emerging Growth and Smaller Reporting Company Status

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and a "smaller reporting company," as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended. As such, we are permitted to and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not similarly situated. As an emerging growth company, the JOBS Act allows us to delay adoption of new or revised accounting standards applicable to public companies until such standards are made applicable to private companies. However, we have irrevocably elected not to avail ourselves of this extended transition period for complying with new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivities. Our interest-earning assets consist of cash, cash equivalents, and marketable securities. Interest income earned on these assets was $3.1 and $3.4 million for the nine months ended September 30, 2020 and 2019, respectively. Our interest income is sensitive to changes in the general level of interest rates, primarily U.S. interest rates. At September 30, 2020, our cash equivalents consisted of bank deposits and money market funds, and our marketable securities included interest-earning securities. Such interest-earning instruments carry a degree of interest rate risk. A 1% change in interest rates could affect our interest income by $0.5 million in a quarter based on the balance of our marketable securities at September 30, 2020. Our outstanding debt was $2.0 million as of each of September 30, 2020 and December 31, 2019 and carries a fixed interest rate of 3.25% per annum.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer (our principal executive officer and principal financial officer, respectively), evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2020. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by the company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2020, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fiscal quarter ended September 30, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. We have not experienced any material impact to our internal control over financial reporting due to the COVID-19 pandemic. We are continually monitoring and assessing the COVID-19 pandemic on our internal controls to minimize the impact on their design and operating effectiveness.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

We are not currently a party to any material legal proceedings.

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below together with all of the other information contained in this Quarterly Report on Form 10-Q, including our condensed consolidated financial statements and the related notes appearing elsewhere in this Quarterly Report on Form 10-Q and our consolidated financial statements and related notes in our Annual Report on Form 10-K for the year ended December 31, 2019 filed on March 16, 2020. If any of the following risks actually occur, our business, prospects, operating results and financial condition could suffer materially. In such event, the trading price of our common stock could decline and you might lose all or part of your investment.

Risks Related to Our Financial Position and Need For Additional Capital

We have incurred significant losses since our inception. We expect to incur losses over at least the next several years and may never achieve or maintain profitability.

Our net loss was $77.8 million for the nine months ended September 30, 2020, $70.3 million for the year ended December 31, 2019 and $41.5 million for the year ended December 31, 2018. As of September 30, 2020, we had an accumulated deficit of $450.3 million. To date, we have not generated any revenue from product sales and have financed our operations primarily through sales of our equity interests, proceeds from our collaborations, grant funding and debt financing. We are still in the early stages of development of our product candidates and initiated our first clinical trial in the first quarter of 2019, and a second clinical trial in the third quarter of 2019. We expect to continue to incur significant expenses and increasing operating losses for at least the next several years. We anticipate that our expenses will increase substantially if and as we:

- continue a Phase 1/2 clinical trial of our product candidate ARV-110, and initiate one or more Phase 1b cohort expansions of ARV-110 in combination with standard of care agents, in men with metastatic castration-resistant prostate cancer, or mCRPC;
- continue a Phase 1/2 clinical trial of our product candidate ARV-471, and initiate a Phase 1b cohort expansion of ARV-471 in combination with palbociclib, in patients with locally advanced or metastatic ER positive / HER2 negative breast cancer;
- apply our PROTAC platform to advance additional product candidates into preclinical and clinical development;
- expand the capabilities of our PROTAC platform;
- seek marketing approvals for any product candidates that successfully complete clinical trials;
- ultimately establish a sales, marketing and distribution infrastructure and scale up external manufacturing capabilities to commercialize any products for which we may obtain marketing approval;
- expand, maintain and protect our intellectual property portfolio;
- hire additional development, including clinical and regulatory, and scientific personnel; and
- add operational, financial and management information systems and personnel to support our research, product development and future commercialization efforts and support our operations as a public company.

Our expenses could increase beyond our expectations if we are required by the U.S. Food and Drug Administration, or FDA, the European Medicines Agency, or EMA, or other regulatory authorities to perform trials in addition to those that we currently expect, or if there are any delays in establishing appropriate manufacturing arrangements for or in completing our clinical trials or the development of any of our product candidates.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses we will incur or when, if ever, we will be able to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. 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, maintain our research and development efforts, diversify our product offerings or even continue our operations. A decline in the value of our company could also cause our stockholders to lose all or part of their investment.

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

We initiated clinical development of our first two product candidates in 2019 and we expect that it will be many years, if ever, before we have a product candidate ready for commercialization. We may never succeed in these activities and, even if we do, may never generate revenues that are significant enough to achieve profitability. To become and remain profitable, we must succeed in developing, obtaining marketing approval for and commercializing products that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical testing and clinical trials of our product candidates, discovering additional product candidates, establishing arrangements with third parties for the manufacture of clinical supplies of our product candidates, obtaining marketing approval for our product candidates and manufacturing, marketing and selling any products for which we may obtain marketing approval.

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

We will need substantial additional funding. If we are unable to raise capital when needed, we may be required to delay, limit, reduce or terminate our research or product development programs or future commercialization efforts.

We expect our expenses to increase substantially in connection with our ongoing activities, particularly as we continue our Phase 1/2 clinical trial of ARV-110 and our Phase 1/2 clinical trial of ARV-471, advance our other oncology and neurodegenerative programs and continue research and development and initiate additional clinical trials of and potentially seek marketing approval for our lead programs and our other product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. We expect to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we may be required to delay, limit, reduce or terminate our research, product development programs or any future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

We had cash, cash equivalents and marketable securities of approximately $248.6 million as of September 30, 2020 and $280.9 million as of December 31, 2019. We believe that our cash, cash equivalents and marketable securities as of September 30, 2020 will enable us to fund our planned operating expenses and capital expenditure requirements into 2022. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the progress, costs and results of our Phase 1/2 clinical trial for ARV-110 and our Phase 1/2 clinical trial for ARV-471 and any future clinical development of ARV-110 and ARV-471;
- the scope, progress, costs and results of preclinical and clinical development for our other product candidates and development programs;
- the number of, and development requirements for, other product candidates that we pursue, including our other oncology and neurodegenerative research programs;
- the success of our collaborations with Pfizer, Inc., or Pfizer, Genentech, Inc. and F. Hoffman-LaRoche Ltd., collectively referred to as Genentech, and Bayer AG, or Bayer;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims; and
- our ability to establish additional collaboration arrangements with other biotechnology or pharmaceutical companies on favorable terms, if at all, for the development or commercialization of our product candidates.

Identifying potential product candidates and 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 or results required to obtain marketing approval and achieve product sales. 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 many years, if at all. Accordingly, we will need to obtain substantial additional funds to achieve our business objectives. Adequate additional funds may not be available to us on acceptable terms, or at all. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates.

Until such time, if ever, as we can generate substantial revenue from product sales, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. Although we may receive potential future payments under our collaborations with Pfizer, Genentech and Bayer, we do not currently have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, our stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights as common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures or declaring dividends.

We have in the past entered into financing arrangements with the State of Connecticut and related entities. These include $4.5 million in partially forgivable loans from the State of Connecticut and a loan agreement with Connecticut Innovations, Incorporated, or CII, the strategic venture capital arm and a component unit of the State of Connecticut, in an aggregate principal amount of $750,000. We also granted CII a warrant to purchase 110,116 of our Series A convertible preferred units, which it exercised in July 2018. Covenants in these financing arrangements impose certain limitations and obligations on us, including restrictions on our ability to incur additional debt, to enter into certain business combinations, and from moving our principal offices out of Connecticut. If we were to move our principal offices out of Connecticut or certain employment conditions are not met, we would be obligated to repay the full amount of our previously forgiven loans to the State of Connecticut, currently $2.5 million, and prepay a portion of our unforgiven loans to the State of Connecticut, currently $2.0 million, plus liquidated damages of 7.50%. Additionally, CII would be entitled to obligate us to purchase all of our outstanding securities owned by CII for a specified guaranteed return pursuant to a put agreement with CII.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us.

Our limited operating history may make it difficult for our stockholders to evaluate the success of our business to date and to assess our future viability.

We commenced operations in 2013, and our operations to date have been limited to organizing and staffing our company, business planning, raising capital, conducting discovery and research activities, filing patent applications, identifying potential product candidates, undertaking preclinical studies, establishing arrangements with third parties for the manufacture of initial quantities of our product candidates and conducting early-stage clinical trials. In March 2019, we initiated our first Phase 1 clinical trial for a product candidate, ARV-110, and in August 2019, we initiated our Phase 1 clinical trial of our product candidate ARV-471. All of our other product candidates are still in preclinical development. We have not yet demonstrated our ability to successfully complete any clinical trials, obtain marketing approvals, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales, marketing and distribution activities necessary for successful product commercialization. Consequently, any predictions stockholders make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as a young business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition at some point from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We expect our financial condition and operating results to continue to fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, stockholders should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

The COVID-19 pandemic, which began in late 2019 and has spread worldwide, may affect our ability to initiate and complete current or future preclinical studies or clinical trials, disrupt regulatory activities or have other adverse effects on our business and operations. In addition, this pandemic has caused substantial disruption in the financial markets and may adversely impact economies worldwide, both of which could result in adverse effects on our business and operations.

The COVID-19 pandemic, which began in December 2019 and has spread worldwide, has caused many governments to implement measures to slow the spread of the outbreak through quarantines, travel restrictions, heightened border scrutiny, and other measures. The outbreak and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. The future progression of the outbreak and its effects on our business and operations are uncertain.

We and our contract manufacturing organizations, or CMOs, and contract research organizations, or CROs, may face disruptions that may affect our ability to initiate and complete preclinical studies or clinical trials including disruptions at our facilities or disruptions in procuring items that are essential for our research and development activities, including, for example, raw materials used in the manufacturing of our product candidates, laboratory supplies for our preclinical studies and clinical trials, or animals that are used for preclinical testing, in each case, for which there may be shortages because of ongoing efforts to address the outbreak. For example, our New Haven-based laboratories were closed for part of March through May 2020 which limited the biology work we could conduct for our early-stage research programs and increased our reliance on CROs. We and our CROs and CMOs may face disruptions related to our ongoing clinical trials or future clinical trials arising from delays in IND-enabling studies, manufacturing disruptions, and the ability to obtain necessary institutional review board or other necessary site approvals, as well as other delays at clinical trial sites, including delays related to site staffing. For example, in the first quarter of 2020, production of certain building blocks for the drug substance used in the manufacture of ARV-471 were delayed at one of our China-based manufacturers. The response to the COVID-19 pandemic may redirect resources with respect to regulatory and intellectual property matters in a way that would adversely impact our ability to progress regulatory approvals and protect our intellectual property. In addition, we may face impediments to regulatory meetings and approvals due to measures intended to limit in-person interactions.

The pandemic has already caused significant disruptions in the financial markets, and may continue to cause such disruptions, which could impact our ability to raise additional funds through public offerings and may also impact the volatility of our stock price and trading in our stock. Moreover, it is possible the pandemic will significantly impact economies worldwide, which could result in adverse effects on our business and operations. We cannot be certain what the overall impact of the COVID-19 pandemic will be on our business and it has the potential to adversely affect our business, financial condition, results of operations and prospects.

Changes in tax laws or in their implementation or interpretation may adversely affect our business and financial condition.

Recent changes in tax law may adversely affect our business or financial condition. On December 22, 2017, the U.S. government enacted legislation, commonly referred to as the Tax Cuts and Jobs Act of 2017, or the TCJA, that significantly revised the U.S. Internal Revenue Code of 1986, as amended, or the Code. The TCJA contains, among other things, significant changes to corporate taxation, including a reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, the limitation of the tax deduction for net interest expense to 30% of adjusted earnings (except for certain small businesses), the limitation of the deduction for net operating losses arising in taxable years beginning after December 31, 2017 to 80% of current year taxable income and elimination of net operating loss carrybacks for losses arising in taxable years ending after December 31, 2017 (though any such net operating losses may be carried forward indefinitely), the imposition of a one-time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, the elimination of U.S. tax on foreign earnings (subject to certain important exceptions), the allowance of immediate deductions for certain new investments instead of deductions for depreciation expense over time, and the modification or repeal of many business deductions and credits.

As part of Congress's response to the COVID-19 pandemic, the Families First Coronavirus Response Act, or FFCR Act, was enacted on March 18, 2020, and the Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, was enacted on March 27, 2020. Both contain numerous tax provisions. In particular, the CARES Act retroactively and temporarily (for taxable years beginning before January 1, 2021) suspends application of the 80%-of-income limitation on the use of net operating losses, which was enacted as part of the TCJA. It also provides that net operating losses arising in any taxable year beginning after December 31, 2017, and before January 1, 2021 are generally eligible to be carried back up to five years. The CARES Act also temporarily (for taxable years beginning in 2019 or 2020) relaxes the limitation of the tax deductibility for net interest expense by increasing the limitation from 30% to 50% of adjusted taxable income.

Regulatory guidance under the TCJA, the FFCR Act and the CARES Act is and continues to be forthcoming, and such guidance could ultimately increase or lessen the impact of these laws on our business and financial condition. It is also possible that Congress will enact additional legislation in connection with the COVID-19 pandemic, some of which could have an impact on our company. In addition, it is uncertain if and to what extent various states will conform to the TCJA, the FFCR Act or the CARES Act.

We might not be able to utilize a significant portion of our net operating loss carryforwards and research and development tax credit carryforwards.

As of December 31, 2019, we had federal net operating loss carryforwards of $103.5 million and federal research and development tax credit carryforwards of $5.1 million. To the extent they expire unused, these net operating loss and tax credit carryforwards will not be available to offset our future income tax liabilities.

In addition, under Section 382 of the Code, and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change, by value, in its equity ownership by certain stockholders over a three-year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income may be limited. We believe our federal net operating losses are subject to an annual limitation as a result of changes in the Company's ownership, as defined by Code Section 382, in November 2019. Notwithstanding the limitations, we expect the federal net operating losses to be fully available under Section 382 within the next two years, subject to any other limitations under the Code. In addition, we may experience ownership changes in the future as a result of subsequent changes in our stock ownership, some of which may be outside of our control. If we determine that an ownership change has occurred and our ability to use our historical net operating loss and tax credit carryforwards is materially limited, it would harm our future operating results by effectively increasing our future tax obligations.

There is also a risk that due to regulatory changes, such as suspensions on the use of net operating losses, or other unforeseen reasons, our existing net operating losses could expire or otherwise become unavailable to offset future income tax liabilities. As described above in "Changes in tax laws or in their implementation or interpretation may adversely affect our business and financial condition," the TCJA, as amended by the CARES Act, includes changes to U.S. federal tax rates and the rules governing net operating loss carryforwards that may significantly impact our ability to utilize our net operating losses to offset taxable income in the future. In addition, state net operating losses generated in one state cannot be used to offset income generated in another state. For these reasons, even if we attain profitability, we may be unable to use a material portion of our net operating losses and other tax attributes.

Risks Related to the Discovery and Development of Our Product Candidates

Our approach to the discovery and development of product candidates based on our PROTAC technology platform is unproven, which makes it difficult to predict the time, cost of development and likelihood of successfully developing any products.

Our PROTAC technology platform is a relatively new technology. Our future success depends on the successful development of this novel therapeutic approach. Prior to the initiation of our Phase 1 clinical trial for ARV-110, no product candidates that use a chimeric small molecule approach to protein degradation, such as our PROTAC targeted protein degraders, had been tested in humans. No product candidates of this type have been approved in the United States or Europe, and the data underlying the feasibility of developing chimeric small molecule-based therapeutic products is both preliminary and limited. We have not yet succeeded and may not succeed in demonstrating the efficacy and safety of any of our product candidates in clinical trials or in obtaining marketing approval thereafter. We have not yet completed a clinical trial of any product candidate and we have not yet completed assessment of the safety of any product candidate in humans. As such, there may be adverse effects from treatment with any of our current or future product candidates that we cannot predict at this time.

As a result of these factors, it is more difficult for us to predict the time and cost of product candidate development, and we cannot predict whether the application of our PROTAC platform, or any similar or competitive protein degradation platforms, will result in the development, and marketing approval of any products. Any development problems we experience in the future related to our PROTAC platform or any of our research programs may cause significant delays or unanticipated costs or may prevent the development of a commercially viable product. Any of these factors may prevent us from completing our preclinical studies or any clinical trials that we may initiate or commercializing any product candidates we may develop on a timely or profitable basis, if at all.

We are very early in our development efforts. If we are unable to commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed.

We are very early in our development efforts. In the first quarter of 2019, we initiated our first Phase 1 clinical trial for a product candidate ARV-110, and in the third quarter of 2019, we initiated our Phase 1 clinical trial of our product candidate ARV-471. All of our other product candidates are still in preclinical development. Our ability to generate revenue from product sales, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of one or more of our product candidates. The success of our product candidates will depend on several factors, including the following:

- successful completion of preclinical studies;
- successful initiation of clinical trials;
- successful patient enrollment in and completion of clinical trials;
- receipt and related terms of marketing approvals from applicable regulatory authorities;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates;
- making arrangements with third-party manufacturers, or establishing manufacturing capabilities, for both clinical and commercial supplies of our product candidates;
- establishing sales, marketing and distribution capabilities and launching commercial sales of our products, if and when approved, whether alone or in collaboration with others;
- acceptance of our products, if and when approved, by patients, the medical community and third-party payors;
- obtaining and maintaining third-party coverage and adequate reimbursement;
- maintaining a continued acceptable safety profile of the products following approval; and
- effectively competing with other therapies.

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 our product candidates, which would materially harm our business.

Drug development involves a lengthy and expensive process, with an uncertain outcome. We may incur unexpected costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

We initiated Phase 1 clinical development of our product candidates ARV-110 and ARV-471 in 2019. All of our other product candidates are in preclinical development. The risk of failure for our product candidates is high. We are unable to predict when or if any of our product candidates will prove effective or safe in humans or will receive marketing approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Before we can commence clinical trials for a product candidate, we must complete extensive preclinical testing and studies that support our planned Investigational New Drug Applications, or INDs, in the United States or similar applications in other jurisdictions. We cannot be certain of the timely completion or outcome of our preclinical testing and studies and cannot predict if the FDA or similar regulatory authorities outside the United States will accept our proposed clinical programs or if the outcome of our preclinical testing and studies will ultimately support the further development of our programs.

Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to the outcome. A failure of one or more clinical trials can occur at any stage of testing. We may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our product candidates, 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;
- we may experience delays in reaching, or fail to reach, agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- 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;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants 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 participants are being exposed to unacceptable health risks;
- regulators or institutional review boards may require that we or our investigators suspend or terminate clinical trials for various reasons, including noncompliance with regulatory requirements;
- our product candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulators or institutional review boards to suspend or terminate the trials;
- unforeseen global instability, including political instability or instability from an outbreak of pandemic or contagious disease, such as the COVID-19 pandemic, in or around the countries in which we conduct our clinical trials, could delay the commencement or timing of completion for our clinical trials;
- the cost of clinical trials of our product candidates may be greater than we anticipate; and
- 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.

If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we may:

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

Our product development costs will also increase if we experience delays in preclinical studies or clinical trials or in obtaining marketing approvals. We do not know whether any of our preclinical studies or clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant preclinical study or clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do and impair our ability to successfully commercialize our product candidates and may harm our business and results of operations.

Further, cancer therapies are sometimes characterized as first-line, second-line, or third-line, and the FDA often approves new therapies initially only for third-line use. When cancer is detected early enough, first-line therapy, usually hormone therapy, surgery, radiation therapy or a combination of these, is sometimes adequate to cure the cancer or prolong life without a cure. Second- and third-line therapies are administered to patients when prior therapy is not effective. Our current clinical trials for ARV-110 and ARV-471 are with patients who have received prior treatments. Subsequently, for those products that prove to be sufficiently beneficial, if any, we would expect to seek approval potentially as a first-line therapy, but any product candidates we develop, even if approved, may not be approved for first-line therapy, and, prior to any such approvals, we may have to conduct additional clinical trials.

If serious adverse events, undesirable side effects, or unexpected characteristics are identified during the development of any product candidates we may develop, we may need to abandon or limit our further clinical development of those product candidates.

Other than our ongoing Phase 1/2 clinical trials of ARV-110 and ARV-471, we have not evaluated any product candidates in human clinical trials. It is impossible to predict when or if any product candidates we may develop will prove safe in humans. There can be no assurance that our PROTAC technology will not cause undesirable side effects.

A potential risk in any protein degradation product is that healthy proteins or proteins not targeted for degradation will be degraded or that the degradation of the targeted protein in itself could cause adverse events, undesirable side effects, or unexpected characteristics. It is possible that healthy proteins or proteins not targeted for degradation could be degraded using our PROTAC technology in any of our ongoing, planned or future clinical studies. There is also the potential risk of delayed adverse events following treatment using our PROTAC technology.

If any product candidates we develop are associated with serious adverse events, or undesirable side effects, or have characteristics that are unexpected, we may need to abandon their development or limit development to certain uses or subpopulations in which the adverse events, undesirable side effects or other characteristics are less prevalent, less severe, or more acceptable from a risk-benefit perspective, any of which would have a material adverse effect on our business, financial condition, results of operations, and prospects. Many product candidates that initially showed promise in early-stage testing for treating cancer or other diseases have later been found to cause side effects that prevented further clinical development of the product candidates or limited their competitiveness in the market.

The results of early-stage clinical trials and preclinical studies may not be predictive of future results. Initial success in clinical trials may not be indicative of results obtained when these trials are completed or in later stage trials.

The results of preclinical studies may not be predictive of the results of clinical trials, and the results of early-stage clinical trials may not be predictive of the results of the later-stage clinical trials. In addition, initial success in clinical trials may not be indicative of results obtained when such trials are completed. In particular, the small number of patients in our ongoing early clinical trials may make the results of these trials less predictive of the outcome of later clinical trials. For example, even if successful, the results of the dose-escalation portion of our Phase 1/2 clinical trial of ARV-110 and our Phase 1/2 clinical trial of ARV-471 may not be predictive of the results of further clinical trials of these product candidates or any of our other product candidates. 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 of their products. Our current or future clinical trials may not ultimately be successful or support further clinical development of any of our product candidates. There is a high failure rate for product candidates proceeding through clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in clinical development even after achieving encouraging results in earlier studies. Any such setbacks in our clinical development could materially harm our business and results of operations.

Interim top-line and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publish interim top-line or preliminary data from our clinical trials. Interim data from clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. For example, the initial safety, tolerability and pharmacokinetic data that we have disclosed in connection with our ongoing Phase 1/2 clinical trials of ARV-110 and ARV-471 and the initial early efficacy data that we have disclosed in connection with our Phase 1/2 clinical trial of ARV-110 may not be indicative of the full results of those trials obtained upon completion. Preliminary or top-line data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Adverse differences between preliminary or interim data and final data could significantly harm our reputation and business prospects.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary marketing approvals could be delayed or prevented.

We may not be able to initiate or continue clinical trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or similar regulatory authorities outside of the United States. In particular, we are conducting a Phase 1/2 clinical trial of ARV-110 for men with mCRPC and a Phase 1/2 clinical trial of ARV-471 for patients with locally advanced or metastatic ER positive / HER2 negative breast cancer. We cannot predict how difficult it will be to enroll patients for trials in these indications. Therefore, our ability to identify and enroll eligible patients for ARV-110 and ARV-471 clinical trials may be limited or may result in slower enrollment than we anticipate. In addition, some of our competitors have ongoing clinical trials for product candidates that treat the same indications as our product candidates, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' product candidates. Patient enrollment is affected by other factors including:

- the severity of the disease under investigation;
- the eligibility criteria for the trial in question;
- the perceived risks and benefits of the product candidates under study;
- the efforts to facilitate timely enrollment in clinical trials;
- the availability of competing therapies;

- the patient referral practices of physicians;
- the burden on patients due to inconvenient procedures;
- the ability to monitor patients adequately during and after treatment; and
- the proximity and availability of clinical trial sites for prospective patients.

In April 2020, we announced that, as a result of the COVID-19 pandemic, two trial sites for our ongoing Phase 1/2 clinical trial of ARV-110 had publicly announced pauses in patient enrollment for clinical trials, including our trials. In addition, one trial site for our ongoing Phase 1/2 clinical trial of ARV-471 had a pause in patient enrollment for clinical trials, including our trial. While the pauses at each of the trial sites have already been lifted, we may nonetheless face difficulties recruiting or retaining patients in our ongoing and planned clinical trials if patients are affected by the virus or are fearful of traveling to, or are unable to travel to, our clinical trial sites because of the outbreak. For example, we experienced a short delay in the enrollment for one cohort of our ARV-471 trial as a result of screening slowdowns attributable to COVID-19.

Our inability to enroll a sufficient number of patients for our clinical trials would result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates, which would cause the value of our company to decline and limit our ability to obtain additional financing.

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.

Because we have limited financial and managerial resources, we focus on research programs and product candidates that we identify for specific indications. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

We may develop our product candidates in combination with other drugs. If the FDA or similar regulatory authorities outside of the United States do not approve these other drugs, or revoke their approval of such drugs, or if safety, efficacy, manufacturing or supply issues arise with the drugs we choose to evaluate in combination with our product candidates, we may be unable to obtain approval of or market our products.

We intend to conduct clinical trials for each of ARV-110 and ARV-471 and potentially other product candidates in combination with other therapies. For example, in the fourth quarter of 2020, we expect to initiate a Phase 1b cohort expansion with ARV-471 for the treatment of patients with locally advanced or metastatic ER positive / HER2 negative breast cancer for use in combination with palbociclib, a CDK 4/6 inhibitor that is currently approved for the treatment of patients with breast cancer. We did not develop or obtain marketing approval for, nor do we manufacture or sell, any of the currently approved drugs that we are or may study in combination with ARV-110 or ARV-471. If the FDA or similar regulatory authorities outside of the United States revoke their approval of the drug or drugs in combination with which we determine to develop ARV-471, we will not be able to market ARV-110 or ARV-471 in combination with such revoked drugs.

If safety or efficacy issues arise with any of these drugs, we could experience significant regulatory delays, and the FDA or similar regulatory authorities outside of the United States may require us to redesign or terminate the applicable clinical trials. If the drugs we use are replaced as the standard of care for the indications we choose for ARV-110 or ARV-471, the FDA or similar regulatory authorities outside of the United States may require us to conduct additional clinical trials. In addition, if manufacturing or other issues result in a shortage of supply of the drugs with which we determine to combine with ARV-471, we may not be able to complete clinical development of ARV-110 or ARV-471 on our current timeline or at all.

Even if ARV-110 or ARV-471 were to receive marketing approval or be commercialized for use in combination with other existing drugs, we would continue to be subject to the risks that the FDA or similar regulatory authorities outside of the United States could revoke approval of the drug used in combination with ARV-110 or ARV-471 or that safety, efficacy, manufacturing or supply issues could arise with these existing drugs. Combination therapies are commonly used for the treatment of cancer, and we would be subject to similar risks if we develop any of our other product candidates for use in combination with other drugs or for indications other than cancer. This could result in our own products being removed from the market or being less successful commercially.

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

A key element of our strategy is to apply our PROTAC platform to address a broad array of targets and new therapeutic areas. The therapeutic discovery activities that we are conducting may not be successful in identifying product candidates that are useful in treating cancer or other diseases. 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:

- potential product candidates may, on further study, be shown to have harmful side effects or other characteristics that indicate that they are unlikely to be drugs that will receive marketing approval or achieve market acceptance; or
- potential product candidates may not be effective in treating their targeted diseases.

Research programs to identify new product candidates require substantial technical, financial and human resources. We may choose to focus our efforts and resources on a potential product candidate that ultimately proves to be unsuccessful. If we are unable to identify suitable product candidates for preclinical and clinical development, we will not be able to obtain revenues from sale of products in future periods, which likely would result in significant harm to our financial position and adversely impact our stock price.

We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. We face and will continue to face competition from third parties that use protein degradation, antibody therapy, inhibitory nucleic acid, gene editing or gene therapy development platforms and from companies focused on more traditional therapeutic modalities, such as small molecule inhibitors. The competition is likely to come from multiple sources, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions, government agencies and public and private research institutions.

We are aware of several biotechnology companies focused on developing chimeric small molecules for protein degradation including C4 Therapeutics, Inc., Cullgen Inc., Kymera Therapeutics, Inc. and Nurix Therapeutics, Inc., all of which are currently in preclinical development. Further, several large pharmaceutical companies have disclosed preclinical investments in this field, including AbbVie, Amgen Inc., AstraZeneca plc, Boehringer Ingelheim, Bristol-Myers Squibb Company, GlaxoSmithKline plc, Genentech and Novartis International AG. In June 2020, Bristol-Myers Squibb Company announced that it had commenced a Phase 1 clinical trial for an androgen receptor targeting protein degrader.

Many of our current or potential competitors, either alone or with their collaboration partners, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic products. There are generic products currently on the market for certain of the indications that we are pursuing, and additional products are expected to become available on a generic basis over the coming years. If our product candidates are approved, we expect that they will be priced at a significant premium over competitive generic products.

Risks Related to Dependence on Third Parties

We expect to depend on collaborations with third parties for the research, development and commercialization of certain of the product candidates we may develop. If any such collaborations are not successful, we may not be able to capitalize on the market potential of those product candidates.

We anticipate seeking third-party collaborators for the research, development and commercialization of some of our PROTAC programs. For example, in September 2015 we entered into a collaboration with Genentech, which we amended and restated in November 2017; in December 2017 we entered into a collaboration with Pfizer; and in July 2019 we entered into a collaboration with Bayer. Our likely collaborators for any other collaboration arrangements include large and mid-size pharmaceutical companies and biotechnology companies. Any such arrangements with third parties will likely limit our control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of any product candidates we may seek to develop with them. Our ability to generate revenues from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements. We cannot predict the success of any collaboration that we enter into.

Collaborations involving our research programs or any product candidates we may develop, including our collaborations with Pfizer, Genentech and Bayer, pose the following risks to us:

- Collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations. For example, our collaboration with Genentech is managed by a joint research committee and joint project team, which is composed of representatives from us and Genentech, with Genentech having final decision-making authority. Similarly, our collaborations with Pfizer and Bayer are managed by joint research committees composed of an equal number of representatives from us and our collaborative partner, with our collaborative partner having final decision-making authority.
- Collaborators may not pursue development and commercialization of any product candidates we may develop or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborator's strategic focus or available funding or external factors such as an acquisition or business combination that diverts resources or creates competing priorities.
- Genentech, Pfizer and Bayer have broad rights to select any target for protein degradation development on an exclusive basis, even as to us, so long as not excluded by us under the terms of each collaboration and may select targets we are considering but have not taken sufficient action to exclude under the collaboration.
- Collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials, or require a new formulation of a product candidate for clinical testing.
- Collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours.
- Collaborators with marketing and distribution rights to one or more products may not commit sufficient resources to the marketing and distribution of such product or products.
- Collaborators may not properly obtain, maintain, enforce, or defend our intellectual property or proprietary rights or may use our proprietary information in such a way that could jeopardize or invalidate our proprietary information or expose us to potential litigation. For example, Pfizer, Genentech and Bayer have the first right to enforce or defend certain intellectual property rights under the applicable collaboration arrangement with respect to particular licensed programs, and although we may have the right to assume the enforcement and defense of such intellectual property rights if the collaborator does not, our ability to do so may be compromised by their actions.
- Disputes may arise between the collaborators and us that result in the delay or termination of the research, development, or commercialization of our products or product candidates or that result in costly litigation or arbitration that diverts management attention and resources.
- We may lose certain valuable rights under circumstances identified in our collaborations, including if we undergo a change of control.

- Collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates. For example, each of Genentech, Pfizer and Bayer can terminate its agreement with us in its entirety or with respect to a specific target for convenience upon 60 days' notice or in connection with a material breach of the agreement by us that remains uncured for a specified period of time. In 2015, we entered into a collaboration agreement with Merck Sharp & Dohme Corp., or Merck, that expired in April 2018 with Merck not electing to continue research in any targets.
- Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all. If a present or future collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished, or terminated.

If our collaborations do not result in the successful development and commercialization of products, or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development of product candidates could be delayed, and we may need additional resources to develop product candidates. In addition, if one of our collaborators terminates its agreement with us, we may find it more difficult to find a suitable replacement collaborator or attract new collaborators, and our development programs may be delayed or the perception of us in the business and financial communities could be adversely affected. All of the risks relating to product development, marketing approval, and commercialization described in this Quarterly Report on Form 10-Q apply to the activities of our collaborators.

We may in the future decide to collaborate with pharmaceutical and biotechnology companies for the development and potential commercialization of any product candidates we may develop. These relationships, or those like them, may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our existing stockholders, or disrupt our management and business. In addition, we could face significant competition in seeking appropriate collaborators, and the negotiation process is time-consuming and complex. Our ability to reach a definitive collaboration agreement will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of several factors. If we license rights to any product candidates we or our collaborators may develop, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture.

We may seek to establish additional collaborations. If we are not able to establish collaborations on commercially reasonable terms, we may have to alter our development and commercialization plans.

To realize the full potential of our PROTAC platform and accelerate the development of additional PROTAC programs, we plan to continue to selectively pursue collaborations with leading biopharmaceutical companies with particular experience, including development and commercial expertise and capabilities. We face significant competition in attracting appropriate collaborators to advance the development of any product candidates for which we may seek a collaboration. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or other regulatory authorities, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge, the terms of any existing collaboration agreements, and industry and market conditions generally. The collaborator may also have the opportunity to collaborate on other product candidates or technologies for similar indications and will have to evaluate whether such a collaboration could be more attractive than one with us.

Collaborations are complex and time-consuming to negotiate, document and execute. In addition, consolidation among large pharmaceutical companies has reduced the number of potential future collaborators. Our existing collaboration agreements limit our ability to enter into future agreements on certain terms with potential collaborators. For example, we have granted exclusive rights to Genentech, Pfizer and Bayer for the discovery, development and commercialization of PROTAC targeted protein degraders directed to certain protein targets, and during the terms of those agreements, we will be restricted from granting rights to other parties to use our PROTAC technology for those targets. Any collaboration we enter into may limit our ability to enter into future agreements on particular terms or covering similar target indications with other potential collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund development or commercialization activities on our own, we may 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 may not be able to further develop our product candidates or bring them to market and generate revenue from product sales, which could have an adverse effect on our business, prospects, financial condition and results of operations.

We rely and expect to continue to rely on agreements with Yale University to supplement our internal research and development program. If Yale decides to discontinue or devote less resources to such research, our research efforts could be diminished.

Our set of arrangements with Yale University, or Yale, provides us with access to certain of Yale's intellectual property and to Professor Craig Crews' laboratory in a manner that we believe closely aligns our scientific interests with those of Yale. We are a party to both a license agreement and a sponsored research agreement with Yale. While Yale has contractual obligations to us, it is an independent entity and is not under our control or the control of our officers or directors. The license agreement is structured to provide Yale with license maintenance fees, development and regulatory milestone payments, royalties on net sales of products, and a portion of sublicense income that we receive on the first licensed product thereunder. Upon the scheduled expiration of the Yale research agreement in April 2021, Yale may decide not to renew it, or may require us to renew on terms less favorable to us than those contained in the existing agreement. Furthermore, either we or Yale may terminate the research agreement for convenience following a specified notice period. If Yale decides to not renew or to terminate the Yale research agreement, our research efforts could be diminished, while our royalty obligations to Yale under the license agreement would continue unmodified, which could have a material adverse effect on our business and financial condition.

Additionally, our license agreement with Yale also provides that so long as Professor Crews serves as a member of our board of directors or scientific advisory board or has a similar advisory arrangement, has a consulting arrangement with us, or his laboratory is performing sponsored research for us, or so long as he is an employee or faculty member (including emeritus faculty member) at Yale, any future invention by Professor Crews' laboratory that would be dominated by or incorporates or uses the patents licensed to us through in the license agreement is included in the licensed intellectual property.

This license of future inventions granted under the license agreement terminates after a specified period following a qualifying change of control, unless we elect or our successor or assignee elects to continue the agreement. If the license is terminated after such a change of control, royalty payments would continue to be paid on certain licensed products.

We rely and expect to continue to rely on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials.

We rely and expect to continue to rely on third-party CROs to conduct our Phase 1/2 clinical trial for ARV-110, our Phase 1/2 clinical trial for ARV-471 and any other clinical trials and currently do not plan to independently conduct any clinical trials of ARV-110 and ARV-471 or of our other product candidates. Agreements with these third parties might terminate for a variety of reasons, including a failure to perform by the third parties. If we need to enter into alternative arrangements, that would delay our product development activities.

Our reliance on these third parties for research and development activities reduces our control over these activities but does not relieve us of our responsibilities. For example, we will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols in the applicable IND. Moreover, the FDA requires compliance with standards, commonly referred to as good clinical practices, or GCPs, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected.

Furthermore, these third parties may have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates.

We rely on third-party contract manufacturing organizations for the manufacture of both drug substance and finished drug product for our product candidates for preclinical testing and clinical trials and expect to continue to do so for commercialization. This reliance on third parties may increase the risk that we will not have sufficient quantities of our product candidates or products or such quantities at an acceptable cost or quality, which could delay, prevent or impair our development or commercialization efforts.

We do not own or operate, and currently have no plans to establish, any manufacturing facilities. We rely on and expect to continue to rely on third-party CMOs for both drug substance and finished drug product as well as the building blocks used to manufacture drug substance. This reliance on third parties may increase the risk that we will not have sufficient quantities of our product candidates or products or such quantities at an acceptable cost or quality, which could delay, prevent or impair our development or commercialization efforts.

We may be unable to establish agreements with third-party manufacturers or to do so on acceptable terms. Even if we are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- reliance on the third party for regulatory, compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party;
- the possible misappropriation of our proprietary information, including our trade secrets and know-how; and
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us.

We have only limited technology transfer agreements in place with respect to our product candidates, and these arrangements do not extend to commercial supply. We acquire many key materials on a purchase order basis. As a result, we do not have long term committed arrangements with respect to our product candidates and other materials. If we receive marketing approval for any of our product candidates, we will need to establish an agreement for commercial manufacture with a third party.

Third-party manufacturers may not be able to comply with current good manufacturing practices, or cGMP, regulations or similar regulatory requirements outside of the United States. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our products.

Our product candidates and any products that we may develop may compete with other product candidates and products for access to manufacturing facilities. As a result, we may not obtain access to these facilities on a priority basis or at all. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us.

Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval. Some of our manufacturers are based outside of the United States, including the manufacturers of the building blocks for our drug substances which are based in China and India. As a result of the COVID-19 pandemic, there has been an increased risk of supply interruption with our manufacturers and, in the first quarter of 2020, the production of certain building blocks for the drug substance used in the manufacture of ARV-471 was delayed at one of our China-based manufacturers. While this production delay did not delay the overall clinical development of our product candidates, other delays in the manufacture of building blocks, drug substance or drug products for our product candidates could arise, which could have a material adverse effect on our clinical development.

If our current contract manufacturers cannot perform as agreed, we may be required to replace such manufacturers. Although we believe that there are several potential alternative manufacturers who could manufacture our product candidates, we may incur added costs and delays in identifying and qualifying any such replacement manufacturer or be unable to reach agreement with any alternative manufacturer.

Our current and anticipated future dependence upon others for the manufacture of our product candidates or products may adversely affect our future profit margins and our ability to commercialize any products that receive marketing approval on a timely and competitive basis.

Risks Related to the Commercialization of Our Product Candidates

Even if any of our product candidates receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

If any of our product candidates receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. For example, current cancer treatments, such as chemotherapy and radiation therapy, are well established in the medical community, and doctors may continue to rely on these treatments. If our product candidates do not achieve an adequate level of acceptance, we may not generate significant revenue from product sales and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and potential advantages compared to alternative treatments;
- the prevalence and severity of any side effects, in particular compared to alternative treatments;
- our ability to offer our products for sale at competitive prices;
- the convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing, sales and distribution support;
- the availability of third-party coverage and adequate reimbursement;
- the timing of any marketing approval in relation to other product approvals;
- support from patient advocacy groups; and
- any restrictions on the use of our products together with other medications.

If we are unable to establish sales and marketing capabilities, we may not be successful in commercializing our product candidates if and when they are approved.

We do not have a sales or marketing infrastructure and have no experience in the sale, marketing or distribution of biopharmaceutical products. To achieve commercial success for any product for which we obtain marketing approval, we will need to establish sales, marketing and distribution capabilities, either ourselves or through collaboration or other arrangements with third parties.

We currently expect that we would build our own focused, specialized sales and marketing organization to support the commercialization in the United States of product candidates for which we receive marketing approval and that can be commercialized with such capabilities. There are risks involved with establishing our own sales and marketing capabilities. 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. These efforts may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our products on our own include:

- our inability to recruit, train and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future products;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If we are unable to establish our own sales and marketing capabilities and enter into arrangements with third parties to perform these services, our revenue from product sales and our profitability, if any, are likely to be lower than if we were to market and sell any products that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to market and sell our product candidates or may be unable to do so on terms that are acceptable to us. We likely will have little control over such third parties, and any of these third parties may fail to devote the necessary resources and attention to sell and market our products effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates.

Even if we are able to commercialize any product candidates, the products may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, which would harm our business.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new drug products vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product candidate in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues, if any, we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval.

Our ability to commercialize any product candidates successfully also will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government healthcare programs, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, government authorities and third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Coverage and reimbursement may not be available for any product that we commercialize and, even if these are available, the level of reimbursement may not be satisfactory. Reimbursement may affect the demand for, or the price of, any product candidate for which we obtain marketing approval. Obtaining and maintaining adequate reimbursement for our products may be difficult. We may be required to conduct expensive pharmacoeconomic studies to justify coverage and reimbursement or the level of reimbursement relative to other therapies. If coverage and adequate reimbursement are not available or reimbursement is available only to limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the FDA or similar regulatory authorities outside of the United States. Moreover, eligibility for coverage and reimbursement does not imply that a drug will be paid for in all cases or at a rate that covers our costs, including research, development, intellectual property, manufacture, sale and distribution expenses. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

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

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or products that we may develop;
- termination of clinical trials;
- withdrawal of marketing approval, recall, restriction on the approval or a “black box” warning or contraindication for an approved drug;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;

- substantial monetary awards to trial participants or patients;
- loss of revenue;
- injury to our reputation and significant negative media attention;
- reduced resources of our management to pursue our business strategy; and
- the inability to commercialize any products that we may develop.

We currently hold $10.0 million in product liability insurance coverage in the aggregate, with a per incident limit of $10.0 million, which may not be adequate to cover all liabilities that we may incur. We will need to increase product liability insurance coverage as we expand our clinical trials and if we commence commercialization of our product candidates. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for our technology and products or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and products may be impaired, and we may not be able to compete effectively in our market.

Our commercial success depends in part on our ability to obtain and maintain patent and other proprietary protection in the United States and other countries with respect to our proprietary technology and products. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel technologies and product candidates. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding our competitive position in our market. Moreover, the patent applications we own, co-own or license may fail to result in issued patents in the United States or in other foreign countries.

The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we do not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from third parties. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our owned, co-owned or licensed patents or pending patent applications, or that we were the first inventors to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued which protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

Moreover, we may be subject to a third-party preissuance submission of prior art to the United States Patent and Trademark Office, or the USPTO, or in addition to interference proceedings, may become involved in opposition, derivation, reexamination, *inter partes* review, post-grant review or other post-grant proceedings challenging our or our licensors' patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Our owned, co-owned and licensed patent estate consists principally of patent applications, many of which are at an early stage of prosecution. Even if our owned, co-owned and licensed patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned, co-owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned, co-owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned, co-owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Changes in patent laws or patent jurisprudence could diminish the value of our patents in general, thereby impairing our ability to protect our product candidates.

Patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to United States patent law. These changes include provisions that affect the way patent applications are prosecuted and may also affect patent litigation. The USPTO developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first-inventor-to-file provisions, became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition. Furthermore, for applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third party or instituted by the USPTO to determine who was the first to invent any of the subject matter covered by the patent claims of our applications.

Additionally, the U.S. Supreme Court has ruled on several patent cases in recent years limiting where a patentee may file a patent infringement suit, narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations, and there are other open questions under patent law that courts have yet to decisively address. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained.

Depending on decisions by Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways and could weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. In addition, the European patent system is relatively stringent in the type of amendments that are allowed during prosecution, but, the complexity and uncertainty of European patent laws has also increased in recent years. Complying with these laws and regulations could limit our ability to obtain new patents in the future that may be important for our business.

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

Competitors may infringe our issued patents, the patents of our licensors, or other intellectual property. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive, time-consuming and unpredictable. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents. In addition, in a patent infringement proceeding, a court may decide that a patent of ours or our licensors is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly or 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 proceeding could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly. Even if we successfully assert our patents, a court may not award remedies that sufficiently compensate us for our losses.

We may need to license intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.

A third party may hold intellectual property, including patent rights, that are important or necessary to the development of our products. It may be necessary for us to use the patented or proprietary technology of a third party to commercialize our own technology or products, in which case we would be required to obtain a license from such third party. A license to such intellectual property may not be available or may not be available on commercially reasonable terms, which could have a material adverse effect on our business and financial condition.

The licensing and acquisition of third-party intellectual property rights is a competitive practice, and companies that may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their larger size and cash resources or greater clinical development and commercialization capabilities. We may not be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates that we may seek to acquire.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability, and the ability of our collaborators, to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing the proprietary rights of third parties. There is considerable intellectual property litigation in the biotechnology and pharmaceutical industries, as well as administrative proceedings for challenging patents, including interference, reexamination, and *inter partes* review proceedings before the USPTO and oppositions and other comparable proceedings in foreign jurisdictions.

We may become party to, or threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our products and technology, including interference, derivation, reexamination or *inter partes* review proceedings before the USPTO. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. There may be third-party patents of which we are currently unaware with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our drug 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 we are found by a court of competent jurisdiction to infringe a third party's intellectual property rights, we could be required to obtain a license from such third party to continue developing and marketing our products and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

If we fail to comply with our obligations in our current and future intellectual property licenses and funding arrangements with third parties, we could lose rights that are important to our business.

We are party to a license agreement with Yale that provides us with the foundational intellectual property rights for our PROTAC targeted protein degradation technology. This license agreement imposes diligence, development and commercialization timelines and milestone payment, royalty, insurance and other obligations on us. If we fail to comply with our obligations, including achieving specified milestone events, Yale may have the right to terminate this license, in which event we might not be able to develop, manufacture or market any product that is covered by the intellectual property we in-license from Yale and may face other penalties. Such an occurrence would materially adversely affect our business prospects. For a variety of purposes, we will likely enter into additional licensing and funding arrangements with third parties that may also impose similar obligations on us.

Termination of any of our current or future in-licenses would reduce or eliminate our rights under these agreements and may result in our having to negotiate new or reinstated agreements with less favorable terms or cause us to lose our rights under these agreements, including our rights to important intellectual property or technology. Any of the foregoing could prevent us from commercializing our other product candidates, which could have a material adverse effect on our operating results and overall financial condition.

In addition to the above risks, intellectual property rights that we license in the future may include sublicenses under intellectual property owned by third parties, in some cases through multiple tiers. The actions of our licensors may therefore affect our rights to use our sublicensed intellectual property, even if we are in compliance with all of the obligations under our license agreements. Should our licensors or any of the upstream licensors fail to comply with their obligations under the agreements pursuant to which they obtain the rights that are sublicensed to us, or should such agreements be terminated or amended, our ability to develop and commercialize our product candidates may be materially harmed.

Further, we do not have the right to control the prosecution, maintenance and enforcement of all of our licensed and sublicensed intellectual property, and even when we do have such rights, we may require the cooperation of our licensors and upstream licensors, which may not be forthcoming. For example, under the Yale license, any patent applications and issued patents under the agreement remain the property of Yale, and Yale has the right to choose patent counsel. Our business could be adversely affected if we or our licensors are unable to prosecute, maintain and enforce our licensed and sublicensed intellectual property effectively.

We may be subject to claims by third parties asserting that our employees, consultants, contractors or we have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

We employ individuals who were previously employed at universities as well as other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We have received confidential and proprietary information from collaborators, prospective licensees and other third parties. Although we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that these employees or we have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. We may also be subject to claims that former employers or other third parties have an ownership interest in our patents. Litigation may be necessary to defend against these claims. We may not be successful in defending these claims, and if we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Even if we are successful, litigation could result in substantial cost and reputational loss and be a distraction to our management and other employees.

In addition, while it is our policy to require our employees, consultants and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own. Such assignment agreements may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could compromise our ability to compete in the marketplace.

Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent offices, 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 USPTO and patent offices in foreign countries in several stages over the lifetime of the patent. The USPTO and patent offices in foreign countries require compliance with a number of procedural, documentary, fee payment and other requirements 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 a patent or 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. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to seeking patents for some of our technology and product candidates, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside of the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed.

If we are not able to obtain patent term extensions in the United States under the Hatch-Waxman Act and in foreign countries under similar legislation, thereby potentially extending the term of our marketing exclusivity for our product candidates, our business may be impaired.

Depending upon the timing, duration and specifics of FDA marketing approval of our product candidates, one of the U.S. patents covering each of such product candidates or the use thereof may be eligible for a patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, or Hatch-Waxman Act. The period of extension may be up to five years beyond the expiration date of a patent but cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval. The Hatch-Waxman Act allows a maximum of one patent to be extended per FDA-approved product. Similar patent term extension also may be available in certain foreign countries upon regulatory approval of our product candidates. Nevertheless, we may not be granted patent term extension either in the United States or in any foreign country because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the term of extension, as well as the scope of patent protection during any such extension, afforded by the governmental authority could be less than we request.

If we are unable to obtain patent term extension or restoration, or the term of any such extension is less than we request, the period during which we will have the right to exclusively market our product may be shortened and our competitors may obtain approval of competing products following our patent expiration sooner, and our revenue could be reduced, possibly materially.

We only have limited geographical protection with respect to certain patents and we may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents covering our product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In-licensing patents covering our product candidates in all countries throughout the world may similarly be prohibitively expensive, if such opportunities are available at all. And in-licensing or filing, prosecuting and defending patents even in only those jurisdictions in which we develop or commercialize our product candidates may be prohibitively expensive or impractical. Competitors may use our and our licensors' technologies in jurisdictions where we have not obtained patent protection or licensed patents to develop their own products and, further, may export otherwise infringing products to territories where we and our licensors have patent protection, but enforcement is not as strong as that in the United States or the European Union. These products may compete with our product candidates, and our or our licensors' patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

In addition, we may decide to abandon national and regional patent applications while they are still pending. The grant proceeding of each national or regional patent is an independent proceeding which may lead to situations in which applications may be rejected by the relevant patent office, while substantively similar applications are granted by others. For example, relative to other countries, China has a heightened detailed description requirement for patentability. Furthermore, generic drug manufacturers or other competitors may challenge the scope, validity or enforceability of our or our licensors' patents, requiring us or our licensors to engage in complex, lengthy and costly litigation or other proceedings. Generic drug manufacturers may develop, seek approval for and launch generic versions of our products. It is also quite common that depending on the country, the scope of patent protection may vary for the same product candidate or technology.

The laws of some jurisdictions do not protect intellectual property rights to the same extent as the laws or regulations in the United States and the European Union, and many companies have encountered significant difficulties in protecting and defending proprietary rights in such jurisdictions. Moreover, the legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets or other forms of intellectual property, which could make it difficult for us to prevent competitors in some jurisdictions from marketing competing products in violation of our proprietary rights generally.

Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, are likely to result in substantial costs and divert our efforts and attention from other aspects of our business, and additionally could put our or our licensors' patents at risk of being invalidated or interpreted narrowly, could increase the risk of our or our licensors' patent applications not issuing, or could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, while damages or other remedies may be awarded to the adverse party, which may be commercially significant. If we prevail, damages or other remedies awarded to us, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license. Furthermore, while we intend to protect our intellectual property rights in our expected significant markets, we cannot ensure that we will be able to initiate or maintain similar efforts in all jurisdictions in which we may wish to market our product candidates. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate, which may have an adverse effect on our ability to successfully commercialize our product candidates in all of our expected significant foreign markets. If we or our licensors encounter difficulties in protecting, or are otherwise precluded from effectively protecting, the intellectual property rights important for our business in such jurisdictions, the value of these rights may be diminished and we may face additional competition in those jurisdictions.

In some jurisdictions, compulsory licensing laws compel patent owners to grant licenses to third parties. In addition, some countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our licensors are forced to grant a license to third parties under patents relevant to our business, or if we or our licensors are prevented from enforcing patent rights against third parties, our competitive position may be substantially impaired in such jurisdictions.

Risks Related to Regulatory Approval and Marketing of Our Product Candidates and Other Legal Compliance Matters

The regulatory approval process of the FDA is lengthy, time-consuming and inherently unpredictable, and if we are ultimately unable to obtain marketing approval for our product candidates, our business will be substantially harmed.

The time required to obtain approval by the FDA is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained marketing approval for any product candidate and it is possible that none of our existing product candidates, or any product candidates we may seek to develop in the future will ever obtain marketing approval.

Our product candidates could fail to receive marketing approval for many reasons, including the following:

- the FDA may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA that a product candidate is safe and effective for its proposed indication;
- results of clinical trials may not meet the level of statistical significance required by the FDA for approval;
- we may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA may disagree with our interpretation of data from preclinical studies or clinical trials;
- data collected from clinical trials of our product candidates may not be sufficient to support the submission of a New Drug Application, or NDA, to the FDA or other submission or to obtain marketing approval in the United States;
- the FDA may find deficiencies with or fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA may significantly change in a manner rendering our clinical data insufficient for approval.

This lengthy approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market any of our product candidates, which would significantly harm our business, results of operations and prospects. The FDA has substantial discretion in the approval process, and determining when or whether regulatory approval will be obtained for any of our product candidates. Even if we believe the data collected from clinical trials of our product candidates are promising, such data may not be sufficient to support approval by the FDA.

In addition, even if we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may not approve the price we intend to charge for our products, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us from obtaining approvals for the commercialization of some or all of our product candidates. If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize our product candidates, and our ability to generate revenue will be materially impaired.

Our product candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, export and import are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by the EMA and similar regulatory authorities outside of the United States. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. We have not submitted an application for or received marketing approval for any of our product candidates in the United States or in any other jurisdiction.

As a company, we do not have experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party clinical research organizations or other third-party consultants or vendors to assist us in this process. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. Securing marketing approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the regulatory authorities. Our product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use. New cancer drugs frequently are indicated only for patient populations that have not responded to an existing therapy or have relapsed.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. Regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

If we experience delays in obtaining approval or if we fail to obtain approval of our product candidates, the commercial prospects for our product candidates may be harmed and our ability to generate revenues will be materially impaired.

Failure to obtain marketing approval in foreign jurisdictions would prevent our product candidates from being marketed abroad and may limit our ability to generate revenue from product sales.

In order to market and sell our products in the European Union and many other jurisdictions, we, and any collaborators, must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The marketing approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. We, and any collaborators, may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA.

In many countries outside the United States, a product candidate must also be approved for reimbursement before it can be sold in that country. In some cases, the price that we intend to charge for our products, if approved, is also subject to approval. Obtaining non-U.S. regulatory approvals and compliance with non-U.S. regulatory requirements could result in significant delays, difficulties and costs for us and any collaborators and could delay or prevent the introduction of our product candidates in certain countries. In addition, if we or any collaborators fail to obtain the non-U.S. approvals required to market our product candidates outside the United States or if we or any collaborators fail to comply with applicable non-U.S. regulatory requirements, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed and our business, financial condition, results of operations and prospects may be adversely affected.

Additionally, on June 23, 2016, the electorate in the United Kingdom voted in favor of leaving the European Union, commonly referred to as Brexit. Following protracted negotiations, the United Kingdom left the European Union on January 31, 2020. Under the withdrawal agreement, there is a transitional period until December 31, 2020 (extendable up to two years). Discussions between the United Kingdom and the European Union have so far mainly focused on finalizing withdrawal issues and transition agreements but have been extremely difficult to date. To date, only an outline of a trade agreement has been reached. Much remains open but the Prime Minister of the United Kingdom has indicated that the United Kingdom will not seek to extend the transitional period beyond the end of 2020. If no trade agreement has been reached before the end of the transitional period, there may be significant market and economic disruption.

Since the regulatory framework for pharmaceutical products in the United Kingdom covering quality, safety and efficacy of pharmaceutical products, clinical trials, marketing authorization, commercial sales and distribution of pharmaceutical products is derived from European Union directives and regulations, Brexit could materially impact the future regulatory regime that applies to products and the approval of product candidates in the United Kingdom. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, may force us to restrict or delay efforts to seek regulatory approval in the United Kingdom for our product candidates, which could significantly and materially harm our business.

Even if we, or any collaborators, obtain marketing approvals for our product candidates, the terms of approvals and ongoing regulation of our products may limit how we, or they, manufacture and market our products, which could materially impair our ability to generate revenue.

Once marketing approval has been granted, an approved product and its manufacturer and marketer are subject to ongoing review and extensive regulation. We, and any collaborators, must therefore comply with requirements concerning advertising and promotion for any of our product candidates for which we or they obtain marketing approval. Promotional communications with respect to prescription drugs are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved labeling. Thus, we, and any collaborators will not be able to promote any products we develop for indications or uses for which they are not approved.

In addition, manufacturers of approved products and those manufacturers' facilities are required to comply with extensive FDA requirements, including ensuring that quality control and manufacturing procedures conform to cGMPs, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation and reporting requirements. We, our third-party manufacturers, any collaborators and their third-party manufacturers could be subject to periodic unannounced inspections by the FDA to monitor and ensure compliance with cGMPs.

Accordingly, assuming we, or any collaborators, receive marketing approval for one or more of our product candidates, we, and any collaborators, and our respective third-party manufacturers will continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance and quality control.

If we, and any collaborators, are not able to comply with post-approval regulatory requirements, we, and any collaborators, could have the marketing approvals for our products withdrawn by regulatory authorities and our, or any collaborators', ability to market any future products could be limited, which could adversely affect our ability to achieve or sustain profitability. Further, the cost of compliance with post-approval regulations may have a negative effect on our operating results and financial condition.

Any product candidate for which we, or any collaborators, obtain marketing approval could be subject to post-marketing restrictions or withdrawal from the market and we, or any collaborators, may be subject to substantial penalties if we, or they, fail to comply with regulatory requirements or if we, or they, experience unanticipated problems with our products when and if any of them are approved.

Any product candidate for which we, or any collaborators, obtain marketing approval, as well as the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA, EMA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, cGMP requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping. Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, including the requirement to implement a risk evaluation and mitigation strategy. New cancer drugs frequently are indicated only for patient populations that have not responded to an existing therapy or have relapsed. If any of our product candidates receives marketing approval, the accompanying label may limit the approved use of our drug in this way, which could limit sales of the product.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the product, including the adoption and implementation of risk evaluation and mitigation strategies. The FDA and other agencies, including the Department of Justice, or the DOJ, closely regulate and monitor the post-approval marketing and promotion of drugs to ensure they are marketed and distributed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA and DOJ impose stringent restrictions on manufacturers' communications regarding off-label use, and if we do not market our products for their approved indications, we may be subject to enforcement action for off-label marketing. Violations of the Federal Food, Drug, and Cosmetic Act and other statutes, including the False Claims Act, relating to the promotion and advertising of prescription drugs may lead to investigations and enforcement actions alleging violations of federal and state healthcare fraud and abuse laws, as well as state consumer protection laws.

In addition, later discovery of previously unknown side effects or other problems with our products or their manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on such products, manufacturers or manufacturing processes;
- restrictions and warnings on the labeling or marketing of a product;
- restrictions on product distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or untitled letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- damage to relationships with any potential collaborators;
- unfavorable press coverage and damage to our reputation;
- refusal to permit the import or export of our products;
- product seizure;
- injunctions or the imposition of civil or criminal penalties; or
- litigation involving patients using our products.

Non-compliance with European Union requirements regarding safety monitoring or pharmacovigilance, and with requirements related to the development of products for the pediatric population, can also result in significant financial penalties. Similarly, failure to comply with the European Union's requirements regarding the protection of personal information can also lead to significant penalties and sanctions.

In addition, manufacturers of approved products and those manufacturers' facilities are required to comply with extensive FDA requirements, including ensuring that quality control and manufacturing procedures conform to cGMPs applicable to drug manufacturers or quality assurance standards applicable to medical device manufacturers, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation and reporting requirements. We, any contract manufacturers we may engage in the future, our collaborators and their contract manufacturers will also be subject to other regulatory requirements, including submissions of safety and other post-marketing information and reports, registration and listing requirements, requirements regarding the distribution of samples to clinicians, recordkeeping, and costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the product such as the requirement to implement a risk evaluation and mitigation strategy.

Regulatory reform may limit the FDA's ability to engage in oversight and implementation activities in the normal course, and that could negatively impact our business.

The Trump Administration has taken several executive actions, including the issuance of a number of executive orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. On January 30, 2017, President Trump issued an executive order, applicable to all executive agencies, including the FDA, that requires that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the agency shall identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This executive order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the executive order requires agencies to identify regulations to offset any incremental cost of a new regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within the Office of Management and Budget on February 2, 2017, the Trump Administration indicated that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents. More recently, on October 9, 2019, President Trump issued another executive order ("Executive Order on Promoting the Rule of Law Through Improved Agency Guidance Documents"). The order is meant to ensure that agency guidance documents do not establish legally binding requirements and it directs each agency to rescind guidance documents that it determines should no longer be in effect. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Our relationships with health care providers, physicians and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other health care laws and regulations, which could expose us to civil, criminal and administrative sanctions, contractual damages, reputational harm and diminished future profits and earnings.

Health care providers, physicians and third-party payors will play a primary role in the recommendation and prescription of any drugs for which we obtain marketing approval. Our future arrangements with third-party payors, health care providers and physicians may expose us to broadly applicable state and federal fraud and abuse and other health care laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute any drugs for which we obtain marketing approval. These include the following:

- *Anti-Kickback Statute,* which prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, paying, or receiving remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchasing, ordering, leasing, arranging for, or recommending the purchasing, ordering, or leasing of, any good or service for which payment may be made, in whole or in part, under a federal health care program such as Medicare or Medicaid;
- *False Claims Act*—the federal civil and criminal false claims laws, including the civil False Claims Act, and Civil Monetary Penalties Law, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, false or fraudulent claims for payment or knowingly making, using or causing to made or used a false record or statement material to a false or fraudulent claim or to avoid, decrease or conceal an obligation to pay money to the federal government, or knowingly concealing or knowingly and improperly avoiding or decreasing an obligation to pay money to the federal government;
- *HIPAA*—the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal statutes that prohibit, among other things, executing a scheme to defraud any health care benefit program or making false statements relating to health care matters, and apply regardless of the payor (e.g., public or private);
- *HIPAA and HITECH*—HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and their implementing regulations, which impose obligations on HIPAA covered entities and their business associates, including mandatory contractual terms and required implementation of administrative, physical and technical safeguards to maintain the privacy and security of individually identifiable health information;

- *Transparency Requirements*—the federal physician transparency requirements known as the Physician Payments Sunshine Act, under the Patient Protection and Affordable Care Act, as amended by the Health Care Education Reconciliation Act, or the ACA, which requires manufacturers of drugs, medical devices, biological and medical supplies covered by Medicare, Medicaid, or State Children's Health Insurance Program to report annually to the Centers for Medicare & Medicaid Services, or CMS, within the United States Department of Health and Human Services, information related to payments and other transfers of value made by that entity to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and
- *Analogous State, Local and Foreign Laws*—analogous state, local and foreign fraud and abuse laws and regulations, such as state anti-kickback and false claims laws, which may be broader than similar federal laws, can apply to claims involving health care items or services regardless of payor, and are enforced by many different federal and state agencies as well as through private actions.

Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government and require drug manufacturers to report information related to payments and other transfers of value to physicians and other health care providers or marketing expenditures. State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not pre-empted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our business arrangements with third parties will comply with applicable health care laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other health care laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and/or administrative penalties, damages, fines, individual imprisonment, disgorgement, exclusion from government funded health care programs, such as Medicare and Medicaid, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings, additional reporting obligations and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws and the curtailment or restructuring of our operations. If any of the physicians or other health care providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded health care programs.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is also prohibited in the European Union. The provision of benefits or advantages to physicians is governed by the national anti-bribery laws of European Union Member States, such as the U.K. Bribery Act 2010, or the Bribery Act. Infringement of these laws could result in substantial fines and imprisonment.

Payments made to physicians in certain European Union Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual European Union Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct, applicable in the European Union Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Compliance with global privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could subject us to significant fines and penalties, which may have a material adverse effect on our business, financial condition or results of operations.

The regulatory framework for the collection, use, safeguarding, sharing, transfer and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, virtually every jurisdiction in which we operate has established its own data security and privacy frameworks with which we must comply. For example, the collection, use, disclosure, transfer, or other processing of personal data regarding individuals in the European Union, including personal health data, is subject to the EU General Data Protection Regulation, or the GDPR, which took effect across all member states of the European Economic Area, or EEA, in May 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. The GDPR increases our obligations with respect to clinical trials conducted in the EEA by expanding the definition of personal data to include coded data and requiring changes to

informed consent practices and more detailed notices for clinical trial subjects and investigators. In addition, the GDPR also imposes strict rules on the transfer of personal data to countries outside the European Union, including the United States and, as a result, increases the scrutiny that clinical trial sites located in the EEA should apply to transfers of personal data from such sites to countries that are considered to lack an adequate level of data protection, such as the United States. The GDPR also permits data protection authorities to require destruction of improperly gathered or used personal information and/or impose substantial fines for violations of the GDPR, which can be up to four percent of global revenues or 20 million Euros, whichever is greater, and it also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR provides that EU member states may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric or health data.

Similar actions are either in place or under way in the United States. There are a broad variety of data protection laws that are applicable to our activities, and a wide range of enforcement agencies at both the state and federal levels that can review companies for privacy and data security concerns based on general consumer protection laws. The Federal Trade Commission and state Attorneys General all are aggressive in reviewing privacy and data security protections for consumers. New laws also are being considered at both the state and federal levels. For example, the California Consumer Privacy Act, or CCPA, which went into effect on January 1, 2020, is creating similar risks and obligations as those created by the GDPR, though CCPA does exempt certain information collected as part of a clinical trial subject to the Federal Policy for the Protection of Human Subjects (the Common Rule). Many other states are considering similar legislation. A broad range of legislative measures also have been introduced at the federal level. Accordingly, failure to comply with federal and state laws (both those currently in effect and future legislation) regarding privacy and security of personal information could expose us to fines and penalties under such laws. There also is the threat of consumer class actions related to these laws and the overall protection of personal data. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business.

Given the breadth and depth of changes in data protection obligations, preparing for and complying with such requirements is rigorous and time intensive and requires significant resources and a review of our technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors or consultants that process or transfer personal data. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could require us to change our business practices and put in place additional compliance mechanisms, may interrupt or delay our development, regulatory and commercialization activities and increase our cost of doing business, and could lead to government enforcement actions, private litigation and significant fines and penalties against us and could have a material adverse effect on our business, financial condition or results of operations. Similarly, failure to comply with federal and state laws regarding privacy and security of personal information could expose us to fines and penalties under such laws. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business.

Current and future legislation may increase the difficulty and cost for us and any collaborators to obtain marketing approval of and commercialize our product candidates and affect the prices we, or they, 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 product candidates for which we obtain marketing approval. The pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by legislative initiatives. Current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any FDA approved product.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for prescription drugs purchased through a pharmacy by the elderly and disabled 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 MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

In March 2010, then-President Obama signed into law the ACA. Among the provisions of the ACA of importance to our business and our product candidates are the following:

- an annual, non-deductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- expansion of federal healthcare fraud and abuse laws, including the civil False Claims Act and the federal Anti-Kickback Statute, new government investigative powers and enhanced penalties for noncompliance;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts off negotiated prices;
- extension of manufacturers' Medicaid rebate liability;
- expansion of eligibility criteria for Medicaid programs;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- new requirements to report certain financial arrangements with physicians and teaching hospitals;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. These changes include the Budget Control Act of 2011, which, among other things, led to aggregate reductions to Medicare payments to providers of up to 2% per fiscal year that started in 2013 and, due to subsequent legislative amendments to the statute, will stay in effect through 2029 unless additional congressional action is taken. The CARES Act suspended the 2% Medicare sequester from May 1, 2020 through December 31, 2020, and extended the sequester by one year, through 2030. The American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain marketing approval or the frequency with which any such product candidate is prescribed or used. Further, there have been several recent U.S. congressional inquiries and proposed state and federal legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for drug products.

We expect that these healthcare reforms, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that we receive for any approved product and/or the level of reimbursement physicians receive for administering any approved product we might bring to market. Reductions in reimbursement levels may negatively impact the prices we receive or the frequency with which our products are prescribed or administered. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors.

With enactment of the TCJA, which was signed by President Trump on December 22, 2017, Congress repealed the "individual mandate." The repeal of this provision, which requires most Americans to carry a minimal level of health insurance, became effective on January 1, 2019. According to the Congressional Budget Office, the repeal of the individual mandate will cause 13 million fewer Americans to be insured in 2027 and premiums in insurance markets may rise. Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, 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, among other things, amends the ACA, effective January 1, 2019, to increase from 50 percent to 70 percent the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to reduce the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." Further, each chamber of the Congress has put forth multiple bills designed to repeal or repeal and replace portions of the ACA. Although none of these measures has been enacted by Congress to date, Congress may consider other legislation to repeal and replace elements of the ACA.

The Trump Administration has also taken executive actions to undermine or delay implementation of the ACA. Since January 2017, President Trump has signed two Executive Orders 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. One Executive Order directs federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. The second Executive Order terminates the cost-sharing subsidies that reimburse insurers under the ACA. Several state Attorneys General filed suit to stop the Trump Administration from terminating the subsidies, but their request for a restraining order was denied by a federal judge in California on October 25, 2017. In addition, CMS has recently proposed regulations that would give states greater flexibility in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the ACA for plans sold through such marketplaces. Further, on June 14, 2018, U.S. Court of Appeals for the Federal Circuit ruled that the federal government was not required to pay more than $12 billion in ACA risk corridor payments to third-party payors who argued such payments were owed to them. On April 27, 2020, however, the U.S. Supreme Court reversed the federal circuit decision upholding Congress' denial of such risk corridor funding.

Further, on December 14, 2018, a U.S. District Court judge in the Northern District of Texas ruled that the individual mandate portion of the ACA is an essential and inseverable feature of the ACA, and therefore because the mandate was repealed as part of the TCJA, the remaining provisions of the ACA are invalid as well. The Trump Administration and CMS have both stated that the ruling will have no immediate effect, and on December 30, 2018 the same judge issued an order staying the judgment pending appeal. The Trump Administration has represented to the US Court of Appeals for the Fifth Circuit considering this judgment that it does not oppose the lower court's ruling. To that end, on May 1, 2019, the Justice Department filed a brief asking the Court to strike down the entirety of the ACA. Thereafter, on July 10, 2019, the Court of Appeals for the Fifth Circuit heard oral argument in this case. In those arguments, the Trump Administration argued in support of upholding the lower court decision. On December 18, 2019, that court affirmed the lower court's ruling that the individual mandate portion of the ACA is unconstitutional and it remanded the case to the district court for reconsideration of the severability question and additional analysis of the provisions of the ACA. On January 21, 2020, the U.S. Supreme Court declined to review this decision on an expedited basis. On March 3, 2020, however, the Court agreed to hear the case. On June 25, 2020, the Trump Administration and a coalition of 18 states asked the court to strike down the entirety of the ACA. Oral argument before the Supreme Court is scheduled for November 10, 2020. Litigation and legislation over the ACA are likely to continue, with unpredictable and uncertain results.

The costs of prescription pharmaceuticals have also been the subject of considerable discussion in the United States, and members of Congress and the Trump Administration have stated that they will address such costs through new legislative and administrative measures. To date, there have been several recent U.S. congressional inquiries and proposed and enacted state and federal legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for drug products. At the federal level, the Trump Administration continues to press for further drug price control measures that could be enacted during the annual 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. While any proposed measures 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. For example, on May 11, 2018, the Trump Administration issued a plan to lower drug prices. Under this blueprint for action, the Trump Administration indicated that the Department of Health and Human Services will: take steps to end the gaming of regulatory and patent processes by drug makers to unfairly protect monopolies; advance biosimilars and generics to boost price competition; evaluate the inclusion of prices in drug makers' ads to enhance price competition; speed access to and lower the cost of new drugs by clarifying policies for sharing information between insurers and drug makers; avoid excessive pricing by relying more on value-based pricing by expanding outcome-based payments in Medicare and Medicaid; work to give Part D plan sponsors more negotiation power with drug makers; examine which Medicare Part B drugs could be negotiated for a lower price by Part D plans, and improving the design of the Part B Competitive Acquisition Program; update Medicare's drug-pricing dashboard to increase transparency; prohibit Part D contracts that include "gag rules" that prevent pharmacists from informing patients when they could pay less out-of-pocket by not using insurance; and require that Part D plan members be provided with an annual statement of plan payments, out-of-pocket spending, and drug price increases. Finally, the Trump Administration's budget proposal for fiscal year 2021 includes a $135 billion allowance to support legislative proposals seeking to reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and increase patient access to lower-cost generic and biosimilar drugs.

More recently, on July 24, 2020, President Trump issued four executive orders that are intended to lower the costs of prescription drug products. The first order would require all federally qualified health centers, or FQHCs, to pass on to patients the discounts the health centers receive on insulin and epinephrine through Medicare's 340B Drug Discount Program. The second order would establish an international pricing index that would set the price Medicare Part B pays for the costliest medications covered under the program to the lowest price in other economically advanced countries. President Trump has indicated that this order will be held until August 24, 2020, because the Trump Administration may not implement it.

The third order is intended to reduce the costs of drugs by supporting the safe importation of prescription drugs. Specifically, the order calls upon the Department of Health and Human Services, or HHS, to facilitate grants to individuals of waivers of the prohibition of importation of prescription drugs that would allow patients to import FDA approved drug products from abroad, so long as doing so would result in lower costs. In addition, the order would allow wholesalers and pharmacies to re-import both biological drugs and insulin that were originally manufactured in the United States and then exported for international sale. This action preceded the finalization of a rulemaking on September 24, 2020 that allows states or certain other non-federal government entities to submit importation program proposals to the FDA for review and approval. Applicants would be required to demonstrate that their importation plans pose no additional risk to public health and safety and will result in significant cost savings for consumers. At the same time, the FDA issued draft guidance that would allow manufacturers to import their own FDA-approved drugs that are authorized for sale in other countries (multi-market approved products).

Finally, the fourth order would end drug rebates used by health plan sponsors, pharmacies or pharmacy benefit managers, or PBMs, in operating the Medicare Part D program. Specifically, the order directs HHS to exclude from safe harbor protections under the federal anti-kickback statute retroactive price reductions that are not applied at the point-of-sale. Instead, the order requires HHS to establish new safe harbors that would allow health plan sponsors, pharmacies, and PBMs to pass on those discounts to consumers at point-of-sale in order to lower the patient's out-of-pocket costs and permit the use of certain bona fide PBM service fees. Each of these orders directs the federal government to implement the initiatives outlined in the orders, meaning they will not have immediate effects.

Subsequently, President Trump issued a fifth executive order which instructs the federal government to develop a list of “essential” medicines and then buy them and other medical supplies from U.S. manufacturers instead of from companies around the world, including especially China. The order is meant to reduce regulatory barriers to domestic pharmaceutical manufacturing and catalyze manufacturing technologies needed to keep drug prices low and the production of drug products in the United States.

At the state level, individual states are increasingly aggressive in passing legislation and implementing 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. In addition, regional health care authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other health care programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. Increased scrutiny by the U.S. Congress of the FDA’s approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

Governments outside of the United States tend to impose strict price controls, which may adversely affect our revenues from the sales of drugs, if any.

In some countries, particularly the countries of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a drug. To obtain reimbursement or pricing approval in some countries, we, or our collaborators, may be required to conduct a clinical trial that compares the cost-effectiveness of our drug to other available therapies. If reimbursement of our drugs is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be materially harmed.

We are subject to anti-corruption laws, as well as export control laws, customs laws, sanctions laws and other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures and legal expenses, which could adversely affect our business, results of operations and financial condition.

Our operations are subject to anti-corruption laws, including the FCPA, the Bribery Act, and other anticorruption laws that apply in countries where we do business and may do business in the future. The FCPA, the Bribery Act, and these other laws generally prohibit us, our officers and our employees and intermediaries from bribing, being bribed or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other

business advantage. We may in the future operate in jurisdictions that pose a high risk of potential FCPA or Bribery Act violations, and we may participate in collaborations and relationships with third parties whose actions could potentially subject us to liability under the FCPA, the Bribery Act, or local anti-corruption laws. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the governments of the United States, United Kingdom, and authorities in the European Union, including applicable export control regulations, economic sanctions on countries and persons, customs requirements and currency exchange regulations, which we collectively refer to as Trade Control Laws.

There is no assurance that we will be completely effective in ensuring our compliance with all applicable anti-corruption laws, including the FCPA, the Bribery Act, or other legal requirements, including Trade Control Laws. If we are not in compliance with the FCPA, the Bribery Act, and other anti-corruption laws or Trade Control Laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations and liquidity. The Securities and Exchange Commission, or SEC, also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions. Likewise, any investigation of any potential violations of the FCPA, the Bribery Act, other anti-corruption laws or Trade Control Laws by U.S., U.K. or other authorities could also have an adverse impact on our reputation, our business, results of operations and financial condition.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could significantly harm our business.

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

We maintain workers' compensation insurance to cover costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, but this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. Current or future environmental laws and regulations may impair our research, development or production efforts, which could adversely affect our business, financial condition, results of operations or prospects. In addition, failure to comply with these laws and regulations may result in substantial fines, penalties or other sanctions.

Risks Related to Employee Matters and Managing Growth

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 research, development and clinical expertise of our management and scientific teams. Although we have entered into employment agreements with our executive officers, each of them may terminate their employment with us at any time. We also benefit from the research expertise of Professor Crews, our scientific founder and Chief Scientific Advisor. Although we have entered into a consulting agreement with Professor Crews, he may terminate his relationship with us at any time. We do not maintain "key person" insurance for any of our executives or other employees.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain marketing approval of and commercialize products. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. 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. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

We will need to grow the size of our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.

We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of drug development, manufacturing, regulatory affairs and, if any of our product candidates receives marketing approval, sales, marketing and distribution. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Future growth would impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;
- managing our internal development efforts effectively, including the clinical and FDA review process for ARV-110, ARV-471 and any product candidate we develop, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial and management controls, reporting systems and procedures.

Our future financial performance and our ability to advance development of and, if approved, commercialize ARV-110, ARV-471 and any product candidate we develop will depend, in part, on our ability to effectively manage any future growth. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

Our internal computer systems, or those of any collaborators, contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product development programs.

Our internal computer systems and those of any collaborators, contractors or consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Such systems are also vulnerable to service interruptions or to security breaches from inadvertent or intentional actions by our employees, third-party vendors and/or business partners, or from cyber-attacks by malicious third parties. Cyber-attacks are increasing in their frequency, sophistication and intensity, and have become increasingly difficult to detect. Cyber-attacks could include the deployment of harmful malware, ransomware, denial-of-service attacks, unauthorized access to or deletion of files, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of information. Cyber-attacks also could include phishing attempts or e-mail fraud to cause payments or information to be transmitted to an unintended recipient.

While we have not experienced any such material system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations, whether due to a loss of our trade secrets or other proprietary information or other similar disruptions. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our marketing approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, our competitive position could be harmed and the further development and commercialization of our product candidates could be delayed.

Our employees, independent contractors, vendors, principal investigators, CROs and consultants may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading laws.

We are exposed to the risk that our employees, independent contractors, vendors, principal investigators, CROs and consultants may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include:

- intentional, reckless or negligent conduct or disclosure of unauthorized activities to us that violate the regulations of the FDA or similar foreign regulatory authorities;
- healthcare fraud and abuse laws and regulations in the United States and abroad;

- violations of U.S. federal securities laws relating to trading in our common stock; and
- failures to reporting of financial information or data accurately.

In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations regulate a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Other forms of misconduct could involve the improper use of information obtained in the course of clinical trials or creating fraudulent data in our preclinical studies or clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. We have adopted a code of conduct and implement other internal controls applicable to all of our employees, but it is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. Additionally, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Risks Related to Our Common Stock

The price of our common stock is volatile and may fluctuate substantially, which could result in the loss of all or part of our stockholders' investment.

Our stock price is volatile. The stock market in general and the market for smaller biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including:

- the degree of success of competitive products or technologies;
- results of or developments in preclinical studies and clinical trials, of our product candidates or those of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire or in-license additional technologies or product candidates;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

If any of the foregoing matters were to occur, or if our operating results fall below the expectations of investors or securities analysts, the price of our common stock could decline substantially. In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation often has been instituted against that company. Such litigation, if instituted against us, could cause us to incur substantial costs to defend such claims and divert management's attention and resources, which could seriously harm our business, financial condition, results of operations and prospects.

Our executive officers, directors and principal stockholders, if they choose to act together, have the ability to significantly influence or control all matters submitted to stockholders for approval.

Our executive officers and directors, combined with our stockholders who own more than 5% of our outstanding common stock, in the aggregate, beneficially own shares representing approximately 25% of our capital stock. As a result, if these stockholders were to choose to act together, they would be able to significantly influence or control all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, could significantly influence or control the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of ownership control may:

- delay, defer or prevent a change in control;
- entrench our management and the board of directors; or
- impede a merger, consolidation, takeover or other business combination involving us that other stockholders may desire.

Provisions in our corporate charter documents, under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our certificate of incorporation and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, 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. Among other things, these provisions:

- provide for a classified board of directors such that only one of three classes of directors is elected each year;
- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from our board of directors;
- provide for advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call stockholder meetings;
- authorize our board of directors to issue preferred stock 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; and
- require the approval of the holders of at least 75% of the votes that all our stockholders would be entitled to cast to amend or repeal specified provisions of our charter or bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

An active trading market for our common stock may not be sustained.

Our shares of common stock began trading on the Nasdaq Global Select Market on September 27, 2018. Given the limited trading history of our common stock, there is a risk that an active trading market for our shares will not be sustained, which could put downward pressure on the market price of our common stock and therefore affect the ability of our stockholders to sell their shares.

If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock is influenced by the research and reports that industry or securities analysts publish about us or our business. If no or few securities or industry analysts continue coverage of us, the trading price for our stock could be negatively impacted. If any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property or our stock performance, or if our trials or operating results fail to meet the expectations of analysts, our stock price will likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

If a significant portion of our total outstanding shares are sold into the market, the market price of our common stock could drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. Holders of a significant portion of our common stock have rights, subject to specified conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders.

In addition, in July 2019, we issued 1,346,313 shares of our common stock to Bayer. On October 1, 2019, we filed a registration statement on Form S-3 covering the resale of these shares.

We have registered all shares of common stock that we may currently issue under our equity compensation plans. These shares can be freely sold in the public market upon issuance, subject to volume, notice and manner of sale limitations applicable to affiliates.

We currently have on file with the SEC a universal shelf registration statement on Form S-3 which allows us to offer and sell registered common stock, preferred stock, debt securities, depositary shares, units and/or warrants from time to time pursuant to one or more offerings at prices and terms to be determined at the time of sale. In October 2019, we entered into an Equity Distribution Agreement, or Distribution Agreement, with Piper Sandler, pursuant to which, from time to time, we may offer and sell through Piper Sandler up to $100.0 million of the common stock registered under the universal shelf registration statement pursuant to one or more “at the market” offerings. In November 2019, we completed a follow-on offering of common stock, which resulted in 5,227,273 shares of common stock being sold under the universal shelf registration statement. In September 2020, we sold 1,163,074 shares of common stock in an at-the-market offering for aggregate net proceeds of $29.9 million.

Sales of substantial amounts of shares of our common stock or other securities by our stockholders, by Piper Sandler pursuant to the Distribution Agreement, under our universal shelf registration statement or otherwise could also dilute our stockholders.

We are an “emerging growth company” and a “smaller reporting company”, and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors.

We are an “emerging growth company,” or EGC, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We will remain an EGC until the earlier of: (1) the last day of the fiscal year in which we have total annual gross revenue of $1.07 billion or more; (2) December 31, 2023; (3) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; and (4) the date on which we are deemed to be a large accelerated filer under the rules of the SEC, which means the last day of the first year in which the market value of our common stock that is held by non-affiliates exceeds $700 million as of June 30.

We are also a “smaller reporting company,” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended. We would cease to qualify as a smaller reporting company if we have a public float in excess of $250 million, or have annual revenues in excess of $100 million and a public float in excess of $700 million, determined on an annual basis.

For so long as we remain an EGC, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not EGCs. These exemptions include:

- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- reduced disclosure obligations regarding executive compensation;

- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved; and
- an exemption from compliance with the requirement of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor's report on the financial statements.

In addition to the above reduced disclosure requirements applicable to EGCs, as a smaller reporting company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not smaller reporting companies. These exemptions include:

- being permitted to provide only two years of audited financial statements in our Annual Report on Form 10-K, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to furnish a contractual obligations table in "Management's Discussion and Analysis of Financial Condition and Results of Operations"; and
- not being required to furnish a stock performance graph in our annual report.

We may choose to take advantage of some, but not all, of the available exemptions. We cannot predict whether investors will find our common stock less attractive if we rely on certain or all of these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, the JOBS Act provides that an EGC may take advantage of an extended transition period for complying with new or revised accounting standards. This allows an EGC to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not EGCs.

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

As a public company, and particularly after we are no longer an EGC, we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, or Sarbanes-Oxley, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Global Select Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations have increased our legal and financial compliance costs and have made some activities more time-consuming and costly. For example, these rules and regulations have made it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors.

For as long as we remain an EGC or a smaller reporting company, we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not EGCs or smaller reporting companies as described in the preceding risk factor.

Pursuant to Section 404 of Sarbanes-Oxley, or Section 404, we are required to furnish a report by our management on our internal control over financial reporting beginning with our most recent annual report. However, while we remain an EGC, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets and restrict our future access to the capital markets due to a loss of confidence in the reliability of our financial statements.

Our certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders. Our certificate of incorporation further provides that the federal district courts of the United States of America are the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. These choice of forum provisions could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or stockholders.

Our certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty owed by our directors, officers, other employees or stockholders to the company or our stockholders, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law or as to which the Delaware General Corporation Law confers jurisdiction on the Court of Chancery of the State of Delaware, or any action asserting a claim arising pursuant to our certificate of incorporation or our bylaws or governed by the internal affairs doctrine. Our certificate of incorporation further provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended, or the Securities Act. These choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, other employees or other stockholders, which may discourage such lawsuits against us and our directors, officers, other employees or other stockholders. Alternatively, if a court were to find this provision in our certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition. Neither of these choice of forum provisions would affect suits brought to enforce any liability or duty created by the Exchange Act or the rules and regulations thereunder, jurisdiction over which is exclusively vested by statute in the United States federal courts, or any other claim for which United States federal courts have exclusive jurisdiction.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be our stockholders' sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements we may enter into may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be our stockholders' sole source of gain for the foreseeable future.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Recent Sales of Unregistered Securities

We did not issue any securities that were not registered under the Securities Act during the nine months ended September 30, 2020.

Use of Proceeds from Initial Public Offering of Common Stock

In October 2018, we closed our initial public offering of an aggregate of 7,700,482 shares of common stock, including 200,482 additional shares of common stock at a subsequent closing upon the exercise in part by the underwriters of their option to purchase additional shares of common stock, at a public offering price of $16.00 per share. The aggregate gross proceeds to us from our initial public offering were $123.2 million. The offer and sale of all of the shares in the offering were registered under the Securities Act pursuant to registration statement on Form S-1 (File No. 333-227112), which was declared effective by the SEC on September 26, 2018.

Aggregate net proceeds from the offering were approximately $111.0 million, after deducting underwriting discounts and commissions and offering expenses.

As of September 30, 2020, we have used all of the net offering proceeds from our initial public offering, primarily to fund the advancement of our androgen receptor program and estrogen receptor program, as well as for working capital and general corporate purposes. There was no material change in the use of the net proceeds from the offering as described in our final prospectus filed with the SEC pursuant to Rule 424(b)(4) under the Securities Act on September 27, 2018.

Item 6. Exhibits.

Exhibit Number	Description
3.1	Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-38672) filed with the SEC on October 1, 2018).
3.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-38672) filed with the SEC on October 1, 2018).
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of Principal Executive Officer Pursuant to 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 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document.
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Date File (formatted as Inline XBRL and contained in Exhibit 101).

* Filed herewith.

** Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Arvinas, Inc.

Date: November 5, 2020

By: /s/ John Houston, Ph.D.

John Houston, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Date: November 5, 2020

By: /s/ Sean Cassidy

Sean Cassidy
Chief Financial Officer and Treasurer
(Principal Financial and Accounting Officer)

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John Houston, Ph.D., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arvinas, 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 5, 2020

By: /s/ John Houston, Ph.D.

John Houston, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Sean Cassidy, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arvinas, 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 5, 2020

By: /s/ Sean Cassidy

Sean Cassidy
Chief Financial Officer and Treasurer
(Principal Financial and Accounting Officer)

Exhibit 32.1

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 of Arvinas, Inc. (the "Company") on Form 10-Q for the period ended September 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

Date: November 5, 2020

By: /s/ John Houston, Ph.D.
John Houston, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

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 of Arvinas, Inc. (the "Company") on Form 10-Q for the period ended September 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

Date: November 5, 2020

By: /s/ Sean Cassidy

Sean Cassidy
Chief Financial Officer and Treasurer
(Principal Financial and Accounting Officer)