UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 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, 2017

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: 001-36579

Adverum Biotechnologies, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**20-5258327**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

1035 O'Brien Drive,
Menlo Park, CA
(Address of principal executive offices)

94025
(Zip Code)

(650) 272-6269
(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ 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 definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☐	Accelerated filer	☒
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☐
		Emerging growth company	☒

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

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

As of October 31, 2017 there were 45,041,468 shares of the registrant's common stock, par value $0.0001 per share, outstanding.

Adverum Biotechnologies, Inc.

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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements

Adverum Biotechnologies, Inc.
Condensed Consolidated Balance Sheets
(Unaudited)
(In thousands except share and per share data)

	September 30, 2017	December 31, 2016
	(Unaudited)	
Assets		
Current assets:		
Cash and cash equivalents	$ 31,713	$ 222,170
Short-term investments	154,929	—
Receivable from collaborative partner	—	886
Prepaid expenses and other current assets	2,881	2,218
Total current assets	189,523	225,274
Property and equipment, net	3,347	4,169
Deposit and other non-current assets	340	140
Intangible assets	5,000	5,000
Total assets	$ 198,210	$ 234,583
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 1,580	$ 1,474
Restructuring liabilities	—	25
Accrued expenses and other current liabilities	6,062	6,451
Deferred rent, current portion	121	96
Deferred revenue, current portion	1,850	1,850
Total current liabilities	9,613	9,896
Long-term liabilities:		
Deferred rent, net of current portion	257	352
Deferred revenue, net of current portion	5,711	7,099
Deferred tax liability	1,250	1,250
Other non-current liabilities	387	386
Total liabilities	17,218	18,983
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Preferred stock, $0.0001 par value, 5,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.0001 par value, 300,000,000 shares authorized at September 30, 2017 and December 31, 2016; 43,517,412 and 41,805,009 shares issued and outstanding at September 30, 2017 and December 31, 2016, respectively	5	4
Additional paid-in capital	420,811	413,518
Accumulated other comprehensive loss	(551)	(7)
Accumulated deficit	(239,273)	(197,915)
Total stockholders' equity	180,992	215,600
Total liabilities and stockholders' equity	$ 198,210	$ 234,583

See accompanying notes to condensed consolidated financial statements

Adverum Biotechnologies, Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)
(In thousands except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
	(Unaudited)			
Collaboration revenue	$ 463	$ 395	$ 1,388	$ 967
Operating expenses:				
Research and development	10,272	8,362	27,825	23,772
General and administrative	4,762	6,146	16,815	19,578
Goodwill impairment charge	—	394	—	49,514
Total operating expenses	15,034	14,902	44,640	92,864
Operating loss	(14,571)	(14,507)	(43,252)	(91,897)
Other income, net				
Other income, net	742	206	1,894	544
Total other income, net	742	206	1,894	544
Net loss	$ (13,829)	$ (14,301)	$ (41,358)	$ (91,353)
Other comprehensive loss:				
Net unrealized (loss) gain on marketable securities	35	(6)	(102)	—
Foreign currency translation adjustment	(183)	(23)	(442)	(13)
Comprehensive loss	$ (13,977)	$ (14,330)	$ (41,902)	$ (91,366)
Net loss per share attributable to common stockholders-basic and diluted	$ (0.32)	$ (0.35)	$ (0.97)	$ (2.66)
Weighted-average common shares outstanding-basic and diluted	43,381	41,416	42,849	34,382

See accompanying notes to condensed consolidated financial statements

Adverum Biotechnologies, Inc.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(In thousands)

	Nine Months Ended September 30,	
	2017	2016
	(Unaudited)	
Cash flows from operating activities:		
Net loss	$ (41,358)	$ (91,353)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,592	1,116
Stock-based compensation expense	6,839	9,852
Goodwill impairment charge	—	49,514
Amortization of premium and accrued interest on marketable securities	419	—
Non-cash research and development expense	60	24
Changes in operating assets and liabilities:		
Receivable from collaborative partner	886	(532)
Prepaid expenses and other current assets	(136)	(1,317)
Accounts payable	166	817
Accrued expenses and other current liabilities	(208)	(46)
Restructuring liabilities	(25)	(988)
Deferred revenue	(1,388)	2,936
Deferred rent	(70)	(47)
Net cash used in operating activities	(33,223)	(30,024)
Cash flows from investing activities:		
Purchases of investments	(201,038)	—
Maturities of investments	45,061	37,738
Purchases of property and equipment	(918)	(1,488)
Cash acquired in business acquisition	—	3,449
Net cash provided by (used in) investing activities	(156,895)	39,699
Cash flows from financing activities:		
Proceeds from issuance of common stock pursuant to option exercises	312	633
Taxes paid related to net share settlement of restricted stock units	(292)	(493)
Proceeds from employee stock purchase plan	83	113
Proceeds from financing arrangement	—	100
Net cash provided by financing activities	103	353
Effect of foreign currency exchange rate on cash and cash equivalents	(442)	(105)
Net increase (decrease) in cash and cash equivalents	(190,457)	9,923
Cash and cash equivalents at beginning of period	222,170	221,348
Cash and cash equivalents at end of period	$ 31,713	$ 231,271
Supplemental schedule of noncash investing and financing information		
Unpaid deferred offering costs in accounts payable and accrued expenses	$ 200	$ —
Issuance of common stock and exchange of stock options for business combination	$ —	$ 64,845
Fixed assets in accounts payable, accrued expenses and other current liabilities	$ 148	$ 771

See accompanying notes to condensed consolidated financial statements.

1. Organization and Basis of Presentation

Adverum Biotechnologies, Inc. (the "Company", "we" or "us") was incorporated in Delaware on July 17, 2006 as Avalanche Biotechnologies, Inc. and changed its name to Adverum Biotechnologies, Inc. on May 11, 2016. The Company is headquartered in Menlo Park, California. The Company is a gene therapy company targeting unmet medical needs in serious rare and ocular diseases. Since the Company's inception, it has devoted its efforts principally to performing research and development activities, including conducting preclinical studies and, early clinical trials, filing patent applications, obtaining regulatory agreements, hiring personnel, and raising capital to support these activities.

The Company has not generated any revenue from the sale of products since its inception. The Company has experienced net losses since its inception and had an accumulated deficit of $239.3 million as of September 30, 2017. The Company expects to incur losses and have negative net cash flows from operating activities as it engages in further research and development activities. The Company believes that it has sufficient funds to continue its operations through the end of 2019.

On May 11, 2016, the Company completed the acquisition of all the outstanding shares of Annapurna Therapeutics SAS, a French simplified joint stock company ("Annapurna"). As a result, Annapurna is now a wholly owned subsidiary of the Company.

Upon completion of the acquisition of Annapurna, the Company changed its name to "Adverum Biotechnologies, Inc.". The Company's shares of common stock listed on The NASDAQ Global Market, previously trading through the close of business on Wednesday, May 11, 2016 under the ticker symbol "AAVL," commenced trading on The NASDAQ Global Market under the ticker symbol "ADVM" on May 12, 2016.

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP") and follow the requirements of the Securities and Exchange Commission ("SEC") for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by U.S. GAAP have been condensed or omitted. These unaudited condensed consolidated financial statements have been prepared on the same basis as the Company's annual consolidated financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments, which are necessary for a fair statement of the Company's consolidated financial information. The results of operations for the three and nine months ended September 30, 2017, are not necessarily indicative of the results to be expected for the full year or any other future period. The balance sheet as of December 31, 2016 has been derived from the Company's audited consolidated financial statements at that date but does not include all of the information required by U.S. GAAP for complete consolidated financial statements.

The accompanying unaudited condensed consolidated financial statements and related financial information should be read in conjunction with the audited consolidated financial statements and the related notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2016 filed with the SEC.

2. Summary of Significant Accounting Policies

The accounting policies followed in the preparation of the interim condensed consolidated financial statements are consistent in all material respects with those presented in Note 2 to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2016.

Recently-Issued and Not Yet Adopted Accounting Pronouncements — In May 2014, the Financial Accounting Standards Board ("FASB") issued ASU No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes the revenue recognition requirements in ASC 605*, Revenue Recognition*. This ASU is based on the principle that revenue is recognized to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 defines a five-step process to achieve this core principle and, in doing so, it is possible more judgment and estimates may be required within the revenue recognition process than required under existing U.S. GAAP including identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. ASU 2014-09 is required to be adopted, using either of two methods: (i) retrospective to each prior reporting period presented with the option to elect certain practical expedients as defined within ASU 2014-09; or (ii) retrospective with the cumulative effect of initially applying ASU 2014-09 recognized at the date of initial application and providing certain additional disclosures. In July 2015, the FASB voted to approve a one-year deferral of the

effective date to December 15, 2017 for interim and annual reporting periods beginning after that date and permitted early adoption of the standard, but not before the original effective date of December 15, 2016. The FASB issued supplemental adoption guidance and clarification to ASU 2014-09 in March 2016, April 2016, May 2016 and December 2016 within ASU 2016-08 *Revenue From Contracts With Customers: Principal vs. Agent Considerations*, ASU 2016-10 *Revenue From Contracts with Customers: Identifying Performance Obligations and Licensing*, ASU 2016-12 *Revenue from Contracts with Customers: Narrow-Scope Improvements and Practical Expedients* and ASU 2016-20 *Technical Corrections and Improvement to Topic 606 – Revenue from Contracts with Customers*, respectively. The ASU will be effective for the Company in the first quarter of 2018. The Company has commenced its implementation activities related to the adoption of ASU 2014-09 and is in the process of applying the five-step model of the new standard to its various revenue related arrangements. The Company has completed step 1 (Identify the contract(s) with a customer) and concluded that its collaboration agreements with Regeneron Pharmaceuticals, Inc. and Editas Medicine, Inc. will be impacted by the adoption of the new revenue standards. The Company is in the process of completing step 2 (Identify the performance obligations in the contract) and has not yet reached a conclusion on whether the distinct criteria evaluated under ASC 605-25 for each performance obligation would result in a similar conclusion under the new revenue standards. Preliminarily, the Company intends to adopt the new standard in the first quarter of 2018 using the retrospective approach noted in (ii) above. The Company is currently evaluating the impact of the adoption of this standard on its condensed consolidated financial statements and related disclosures.

In January 2016, the FASB issued ASU No. 2016-01, *Recognition and Measurement of Financial Assets and Financial Liabilities*, which amends the current guidance on the classification and measurement of financial instruments. Although this ASU retains many current requirements, it significantly revises an entity's accounting related to (i) the classification and measurement of investments in equity securities and (ii) the presentation of certain fair value changes for financial liabilities measured at fair value. This ASU also amends certain disclosure requirements associated with the fair value of financial instruments. The new standard is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2017, with early adoption permitted for certain changes. This ASU will be effective for the Company in the first quarter of 2018 and must be adopted using a modified retrospective approach, with certain exceptions. The adoption of this standard is not expected to have a significant impact on the Company's condensed consolidated financial statements and related disclosures.

In February 2016, the FASB issued ASU No. 2016-2, *Leases*, which amends the current guidance on leasing activities to provide more transparency and comparability, and requires that all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, which are currently accounted for as operating leases. The new standard is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2018, with early adoption permitted. This ASU will be effective for the Company in the first quarter of 2019 and must be adopted using a modified retrospective transition approach. The Company has not yet determined whether it will elect early adoption and is currently evaluating the impact of the adoption of this standard on its condensed consolidated financial statements and related disclosures.

In June 2016, the FASB issued ASU No. 2016-13 *Measurement of Credit Losses on Financial Instruments*. This ASU requires measurement and recognition of expected credit losses for financial assets held. The new standard is effective for fiscal years beginning after December 15, 2020 and interim periods beginning after December 15, 2021 with early adoption permitted beginning in the first quarter of 2019. This ASU will be effective for the Company in the first quarter of 2021 and must be adopted using a modified retrospective approach, with certain exceptions. The Company has not yet determined whether it will elect early adoption and is currently evaluating the impact of the adoption of this standard on its condensed consolidated financial statements and related disclosures.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, which clarifies the presentation and classification of certain cash receipts and cash payments in the statement of cash flows. This ASU is effective for annual reporting periods beginning after December 15, 2017, and interim periods within that reporting period. Early adoption is permitted. This ASU will be effective for the Company in the first quarter of 2018. The Company has not yet determined whether it will elect early adoption and is currently evaluating the impact of the adoption of this standard on its condensed consolidated financial statements and related disclosures.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, which provides amendments to current guidance to address the classification and presentation of changes in restricted cash in the statement of cash flows. This ASU is effective for annual reporting periods beginning after December 15, 2017, and interim periods within that reporting period. Early adoption is permitted. This ASU will be effective for the Company in the first quarter of 2018. The Company has not yet determined whether it will elect early adoption and is currently evaluating the impact of the adoption of these standards on its condensed consolidated financial statements and related disclosures.

In May 2017, the FASB issued ASU No. 2017-09, *Scope of Modification Accounting*, which provides amendments to the current guidance for modification accounting. This ASU clarifies that an entity should account for the effects of a modification unless all the following criteria are met: (1) the fair value of the modified award is the same as the fair value of the original award immediately before the original award is modified, (2) the vesting conditions of the modified award are the same as the vesting conditions of the original award immediately before the original award is modified, and (3) the classification of the modified award as an equity instrument or a liability instrument is the same as the classification of the original award immediately before the original award is modified. This ASU is effective for annual reporting periods beginning after December 15, 2017, and interim periods within that reporting period. Early adoption is permitted. This ASU will be effective for the Company in the first quarter of 2018. The Company has not yet determined whether it will elect early adoption and is currently evaluating the impact of the adoption of these standards on its condensed consolidated financial statements and related disclosures.

The Company has reviewed other recent accounting pronouncements and concluded they are either not applicable to the business or no material effect is expected on the consolidated financial statements as a result of future adoption.

3. Acquisition of Annapurna

(a) Purchase Price Allocation

On May 11, 2016, the Company completed the acquisition of all outstanding equity interests of Annapurna. Annapurna was a privately held French limited liability company with two wholly-owned subsidiaries, Annapurna, Inc. in the U.S. and Annapurna Therapeutics Limited in Ireland. Annapurna is a biopharmaceutical company focused on discovering and developing novel gene therapy products for people living with severe rare diseases. The primary reasons for the acquisition were to expand the technology platforms within the Company's research and development portfolio and to apply the Company's resources and expertise in gene vectors development to advance Annapurna's programs through development and clinical trials. Annapurna's results of operations and fair value of assets acquired and liabilities assumed are included in the Company's condensed consolidated financial statements from the date of acquisition.

The purchase price consideration was $64.8 million, which was based on the Company's common stock closing price on NASDAQ on the acquisition closing date of $4.14 per share. A total of 14,087,246 shares of the Company's common stock were issued to shareholders of Annapurna in exchange for all common and preferred stock outstanding at the closing date. Annapurna stockholders did not receive any fractional shares of the Company's common stock in connection with the acquisition. Instead of receiving any fractional shares, each Annapurna stockholder was paid an amount in cash (without interest) equal to such fraction amount multiplied by the average 10 business days sale price of the Company's common stock on NASDAQ from the acquisition date. Annapurna Series O preferred shares issued to founders were canceled prior to the acquisition date and were not included in the purchase price consideration. Vesting of certain of Annapurna's options and unvested common stock shares was accelerated at the closing date. The fair value of awards related to the accelerated vesting of options and shares of $0.9 million was excluded from the purchase price consideration and included in the Company's operating expenses post acquisition.

A portion of the purchase price was attributed to the exchange of Annapurna's options and other rights to purchase capital stock outstanding at the acquisition closing date for corresponding common stock options of the Company at an exchange ratio of 9.54655.

The Company reserved 3,673,940 shares for the future exercise of the Company's stock options. The total fair value of assumed Annapurna stock options and stock-based awards was estimated at $14.7 million on the acquisition date, using the Black-Scholes pricing model, assuming no dividends, expected volatilities of 80% and 89%, risk-free interest rates of 1.4% and 1.1%, and expected lives of six and ten years for employees and non-employees awards, respectively. Of the total fair value, $7.4 million was attributed as pre-combination service and included as part of the total purchase price consideration. The post-combination attribution of $7.2 million was recognized as compensation expense over the remaining requisite service period. The Company included $0.9 million in stock-based compensation expense related to the vesting of exchanged stock options and day-one post combination compensation expenses related to the accelerated vesting of options and shares in its condensed consolidated statement of operations during the second quarter of 2016.

Total purchase price consideration was estimated as follows (in thousands):

Fair value of common shares issued	$	58,321
Fair value of the Company's common share options exchanged for Annapurna stock options and other awards attributable to pre-combination services		7,422
Less: value of common stock and options accelerated vesting at the closing date		(898)
Total purchase price consideration	$	64,845

The transaction was accounted for using the acquisition method based on ASC 805, *Business Combinations,* with Adverum identified as the acquirer, based on the existence of a controlling financial interest of the combined entities. Under the acquisition method, assets acquired and liabilities assumed were recorded at their estimated fair values as of May 11, 2016. Goodwill, as well as intangible assets that do not qualify for separate recognition, is measured as of the acquisition date as the excess of consideration transferred, which is also measured at fair value, and the net of the fair values of the assets acquired and the liabilities assumed as of the acquisition closing date. Goodwill represented expected synergies of two combined companies. Acquisition costs were expensed as incurred and recorded as general and administrative expenses. The Company recorded zero and $2.5 million of acquisition costs for the three-months and nine-months ended September 30, 2016, respectively. No acquisition costs were incurred during the three and nine months ended September 30, 2017.

The allocation of total purchase price consideration is as follows (in thousands):

Cash	$	3,449
Prepaid expenses and other assets		865
Property and equipment		185
Acquired intangible assets		16,200
Goodwill		49,514
Accounts payable		(1,118)
Accrued liabilities		(1,848)
Other noncurrent liabilities		(377)
Deferred tax liabilities		(2,025)
Total purchase price allocation	$	64,845

The identifiable intangible assets acquired consist of IPR&D assets related to products in development, as summarized in the table below (in thousands):

IPR&D - Alpha-1 antitrypsin deficiency	$	11,700
IPR&D - Hereditary angioedema		4,500
Total acquired intangible assets	$	16,200

The fair value of each IPR&D asset is estimated using the income approach and calculated using cash flow projections adjusted for inherent risks regarding regulatory approval, promotion, and distribution, discounted at a rate of approximately 11.0%. The Company acquired two additional intangible assets relating to the Friedreich's Ataxia ("FA") and severe allergy programs, but the fair value of each of these assets was determined to be nominal and is not included in the total acquired intangible assets. All IPR&D intangible assets acquired are currently classified as indefinite-lived and are not currently being amortized. During the year ended December 31, 2016, the Company recorded $11.2 million of IPR&D impairment charge related to these intangible assets.

Goodwill, which represents the excess of the purchase price over the fair values assigned to the net assets acquired, was estimated in the amount of $49.5 million on the acquisition date. The full amount of the preliminary value of goodwill has been assigned to the entire Company, since management has determined that the Company has only one reporting unit. The goodwill is not deductible for tax purposes. As of September 30, 2016, goodwill was fully impaired.

The following pro forma financial information combines the results of operations of Adverum and Annapurna as though the businesses had been combined as of the beginning of fiscal year 2016. The pro forma financial information is presented for informational purposes only, and is not indicative of the results of operations that would have been achieved in the current or any future periods. The following table presents the unaudited pro forma results for the nine months ended September 30, 2016 (in thousands, except per share data).

	Nine Months Ended September 30, 2016
Pro forma information	
Collaboration revenue	$ 967
Net loss	$ (95,167)
Basic and diluted loss per share	$ (2.31)
Weighted-average common shares outstanding - basic and diluted	41,118

Pro-forma adjustments included the following:

- Actual acquisition-related transaction costs of $2.5 million were excluded from pro forma results above as these expenses were incurred prior to the closing of the acquisition.
- Stock-based compensation expense of $0.9 million related to accelerated vesting associated with the acquisition was excluded from the pro forma results above.
- Stock-based compensation expense related to options granted to executives upon the acquisition closing of $0.2 million was included in pro forma results above.
- Interest expense of $1.0 million related to convertible notes and changes in fair value of preferred stock warrants was excluded from the pro-forma results above, as the convertible notes and warrants were settled prior to the acquisition closing.
- $0.4 million of bonuses paid in connection with the closing of the acquisition in May 2016 were excluded from the pro forma results above.

The unaudited condensed pro forma information does not include any anticipated synergies that may be achievable subsequent to the date of acquisition.

4. Cash Equivalents and Short-Term Investments

The following is a summary of the Company's available-for-sale securities as of September 30, 2017 (in thousands):

	September 30, 2017			
	Amortized Cost Basis	Unrealized Losses	Unrealized Gains	Estimated Fair Value
Money market funds	$ 1,763	$ —	$ —	$ 1,763
Certificates of deposit	9,978	—	—	9,978
Commercial paper	32,295	—	—	32,295
U.S. government agency	72,756	(70)	1	72,687
Corporate bonds	63,105	(33)	—	63,072
Total cash equivalents and short-term investments	179,897	(103)	1	179,795
Less: cash equivalents	(24,866)	—	—	(24,866)
Total short-term investments	$ 155,031	$ (103)	$ 1	$ 154,929

The following table is a summary of the cost and estimated fair value of the Company's available-for-sale securities based on stated effective maturities as of September 30, 2017 (in thousands):

	September 30, 2017	
	Amortized Cost Basis	Estimated Fair Value
Mature within one year	$ 151,769	$ 151,725
Mature after one year to three years	28,128	28,070
Total cash equivalents and short-term investments	$ 179,897	$ 179,795

As of December 31, 2016, all of the Company's investments were held in money market funds and were treated as cash equivalents. Management determined that the gross unrealized losses of $0.1 million on the Company's available-for-sale securities as of September 30, 2017 were temporary in nature. Therefore, none of the Company's available-for-sale securities were other-than-temporarily impaired as of September 30, 2017.

5. Fair Value Measurements and Fair Value of Financial Instruments

The authoritative guidance on fair value measurements establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

Level 1: Quoted prices in active markets for identical assets or liabilities.

Level 2: Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability.

The fair value of Level 1 securities are determined using quoted prices in active markets for identical assets. Level 1 securities consist of highly liquid money market funds. Financial assets and liabilities are considered Level 2 when their fair values are determined using inputs that are observable in the market or can be derived principally from or corroborated by observable market data such as pricing for similar securities, recently executed transactions, cash flow models with yield curves, and benchmark securities. In addition, Level 2 financial instruments are valued using comparisons to like-kind financial instruments and models that use readily observable market data as their basis. U.S. government and agency securities, commercial paper, corporate bonds and certificate of deposit are valued primarily using market prices of comparable securities, bid/ask quotes, interest rate yields and prepayment spreads and are included in Level 2.

In certain cases where there is limited activity or less transparency around inputs to valuation, securities are classified as Level 3 within the valuation hierarchy. Level 3 liabilities that were measured at estimated fair value on a recurring basis consist of a financing arrangement entered into during the year ended December 31, 2016.

During the periods presented, the Company has not changed the manner in which it values liabilities that are measured at estimated fair value using Level 3 inputs. There were no transfers within the hierarchy during the three and nine months ended September 30, 2017.

The following table summarizes, for assets recorded at fair value on a recurring basis, the respective fair value and the classification by level of input within the fair value hierarchy as described above (in thousands):

	Total Carrying Value	Quoted Prices In Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
September 30, 2017				
Assets:				
Money market funds	$ 1,763	$ 1,763	$ —	$ —
Certificates of deposit	9,978	—	9,978	—
Commercial paper	32,295	—	32,295	—
U.S. government agency	72,687	—	72,687	—
Corporate bonds	63,072	—	63,072	—
Total cash equivalents and short term investments	$ 179,795	$ 1,763	$ 178,032	$ —
Other noncurrent liability:				
Financing arrangement	$ 74	$ —	$ —	$ 74
December 31, 2016				
Assets:				
Money market funds	$ 215,916	$ 215,916	$ —	$ —
Total cash equivalents	$ 215,916	$ 215,916	$ —	$ —
Other noncurrent liability:				
Financing arrangement	$ 74	$ —	$ —	$ 74

Non-financial assets such as intangible assets, property, plant, and equipment are evaluated for impairment and adjusted to their fair value using Level 3 inputs, only when impairment is recognized. Fair values are considered Level 3 when management makes significant assumptions in developing a discounted cash flow model based upon a number of considerations including projections of revenues, earnings and a discount rate.

6. Significant Agreements

University of California— In May 2010, the Company entered into a license agreement with the Regents of University of California ("Regents"), as amended in September 2013. Under the license agreement, the Regents have granted to the Company an exclusive (even as to the Regents) license, with the right to grant sublicenses, under the Regents' undivided interest in patent rights covering a method of using recombinant gene delivery vectors for treating or preventing diseases of the eye, to develop, make, have made, use offer for sale, import, export and sell products covered by such patent rights in all fields of use in the United States. The licensed patent rights are jointly owned by the Regents and Chiron Corporation, but the Company's license extends only to the Regents' interest in such patent rights.

Under the license agreement, the Company is required to diligently proceed with the development, manufacture and sale of licensed products, which includes obligations to meet certain development-stage milestones within specified periods of time, and to market the resulting licensed products in sufficient quantity to meet market demand. The Company has the right and option to extend the date by which it must meet any milestone by six-months up to two times by paying an extension fee for each such extension.

The Company has paid the Regents a license fee of $100,000. The Company is also obligated to make milestone payments totaling up to $900,000 upon reaching certain stages of development of the licensed products for one indication, and totaling up to $500,000 for each subsequent indication for which licensed products are developed, for up to a maximum of two additional indications. Through September 30, 2017, none of these goals had been achieved, and no milestones were payable. The Company must pay the Regents a low single-digit royalty on net sales of the licensed products by the Company or its sublicensees, subject to a minimum annual royalty payment of $50,000 beginning in the calendar year after the first commercial sale of a licensed product, until the patent rights upon which such royalties are based expire or are held invalid, which is currently expected to occur in 2020, subject to any potential patent term extensions. The Company is obligated to reimburse the Regents for expenses associated with the prosecution and maintenance of the licensed patents. Finally, the Company is obligated to pay the Regents a mid-teen percentage of non-royalty licensing revenue that the Company receives from sublicensees.

The Company's license agreement with the Regents continues in effect for the life of the last-to-expire patent. The Company may terminate this agreement without cause at any time upon 30 days' prior written notice to the Regents. The Regents may terminate this agreement for a breach by the Company that remains uncured for 60 days, if the Company becomes insolvent, if the Company directly or through a third party files a claim that a licensed patent right is invalid or unenforceable or if the Company fails to meet or extend the date for meeting certain diligence milestones.

Regeneron—In May 2014, the Company entered into a research collaboration and license agreement with Regeneron Pharmaceuticals, Inc. ("Regeneron") to discover, develop and commercialize novel gene therapy products for the treatment of ophthalmologic diseases. The collaboration covers up to eight distinct therapeutic targets ("collaboration targets"). The Company and Regeneron collaborate during the initial research period of three years that can be extended by Regeneron for up to an additional five years. During the research period, Regeneron has the option to obtain an exclusive worldwide license for a collaboration target's further development by giving written notice to the Company and paying $2.0 million per target. If Regeneron exercises its option, it will be responsible for all further development and commercialization of the target. The Company is then eligible to receive contingent payments of up to $80.0 million upon achievement of certain development and regulatory milestones for product candidates directed toward each collaboration target, for a combined total of up to $640.0 million in potential milestone payments for product candidates directed toward all eight collaboration targets, plus a royalty in the low- to mid-single-digits on worldwide net sales of collaboration products.

For any two collaboration targets, the Company has an option to share up to 35% of the worldwide product candidate development costs and profits. If the Company exercises this option, the Company will not be eligible for milestone and royalty payments as discussed above but rather the Company will share development costs and profits with Regeneron.

The agreement will expire with respect to each collaboration target upon the earlier of the (a) expiration of the research term if the option right has not been triggered by the end of the research term or (b) expiration of the option right if the option right has not been exercised by Regeneron. If the option right has been exercised, the agreement in connection with each collaboration target will expire upon expiration of all payment obligations by Regeneron. In addition, the agreement, or Regeneron's rights to any target development under the agreement, may terminate early under the following situations:

- Regeneron may terminate the agreement for convenience at any time on a target by target basis or in totality upon a 30-day notice.
- Each party can terminate the agreement if another party commits a material breach or material default in performance of its obligations and such breach or default is not cured within 60 days.
- The agreement is automatically terminated upon initiation of any bankruptcy proceedings, reorganization or dissolution of either party.
- The Company can terminate the agreement upon 30-day notice if Regeneron challenges the validity, scope or enforceability of any Company patent.

On February 23, 2017, Regeneron notified Adverum that, pursuant to the terms of the research collaboration and license agreement, it extended the research term of the collaboration for an additional three years, through May 1, 2020.

Under the Company's research, collaboration and license agreement with Regeneron, the Company is required to have a mutually agreed-on research plan with Regeneron in order to invoice Regeneron for services performed. The Company does not currently have a research plan in place, and, consequently, we are not currently receiving any reimbursements from Regeneron.

Editas—In August 2016, the Company entered into a collaboration, option and license agreement with Editas Medicine, Inc. ("Editas") pursuant to which the Company and Editas will collaborate on certain studies using adeno-associated viral ("AAV") vectors in connection with Editas' genome editing technology and the Company will grant to Editas an exclusive option to obtain certain exclusive rights to use the Company's proprietary vectors in up to five ophthalmic indications ("Indications"). The Company received a $1.0 million non-refundable upfront payment during the year ended December 31, 2016, with $0.5 million of such payment to be credited against Editas' obligation to fund research and development costs. Under the terms of the agreement, both the Company and Editas will be subject to exclusivity obligations.

Under the terms of the agreement, Editas may exercise the option, with respect to a designated initial Indication, until the first anniversary of the effective date of the agreement. With respect to the four other Indications, Editas may exercise the option until the third anniversary of the effective date, provided that the option will expire on the second anniversary of the effective date if Editas has not exercised the option with respect to the initial Indication or any other Indication by such date. Upon each exercise of the option, Editas will pay the Company a $1.0 million fee per Indication. If Editas elects to develop a product using certain of the Company's proprietary vectors, the Company will be eligible to receive up to $15.5 million in development and commercialization milestone

payments for such product, and tiered royalties between the mid-single digits and low teens on net sales of such product, subject to certain adjustments.

Unless earlier terminated, the agreement will be in effect until the later of the expiration of the option exercise period or the expiration of the royalty term of the last product. At any time after the option is first exercised, Editas may terminate the agreement for convenience in its entirety or on an indication-by indication or country-by-country basis, upon prior written notice to the Company. The Company may also terminate the agreement if Editas challenges the Company's patents relating to its proprietary vectors and does not withdraw such challenge within a defined period of time. In addition, either party may terminate the agreement with written notice upon a bankruptcy of the other party or upon an uncured material breach by the other party.

Cornell University—The Company had been a party to a master service agreement ("MSA") with Cornell University ("Cornell") originally established in August 2014 and amended in December 2015. In December 2016, the Company informed Cornell that the Company decided to terminate the MSA for material breach, effective January 6, 2017. Subsequently, Cornell informed the Company that it disputes the validity of the Company's termination of the MSA. Although the Company intends to defend the validity of its termination of the MSA, the Company recorded $2.0 million of estimated costs associated with the termination of the MSA as of September 30, 2017. This MSA included services relating to the Company's gene therapy programs ADVM-043, ADVM-053 and severe allergy. The Company's three licensing agreements with Cornell for these programs remain unchanged.

The decision to terminate the MSA was due to Cornell's failure to deliver therapeutic material of ADVM-043 suitable for use in human patients. As a result of this decision, the Company has contracted with large-scale contract manufacturing organizations that comply with current good manufacturing practice industry standards and can produce product quantities for both the Company's planned clinical trials and potential commercial supply. This is part of the Company's upgrade of the manufacturing process for ADVM-043, implementing its proprietary, highly-scalable baculovirus-based production system, in advance of the Company's plans to begin patient enrollment in a Phase 1/2 clinical trial in the fourth quarter of 2017.

Under the MSA, Cornell provided assistance in regulatory affairs, overall project management, and parameter development. The MSA, as amended, provided for Annapurna to pay Cornell $13.3 million ratably over 4 years for these services as services were performed.

In December 2015, Annapurna entered into three licensing agreements with Cornell, pursuant to which Annapurna will advance its gene therapy programs ADVM-043, ADVM-053, and severe allergy, which originally were initiated at the Department of Genetic Medicine at Weill Cornell.

A1AT Deficiency License Agreement: Under this agreement, Annapurna holds an exclusive license to certain technology related to alpha-1 antitrypsin (A1AT) deficiency and rights to an Investigational New Drug (IND) application to initiate clinical studies of gene therapy for A1AT.

HAE License Agreement: Under this agreement, Annapurna holds an exclusive license to certain technology related to hereditary angioedema (HAE) and a non-exclusive license to certain other intellectual property related to the HAE program.

Allergy License Agreement: Under this agreement, Annapurna holds an exclusive license to certain patents related to allergens and a non-exclusive license to certain other technology related to allergens.

Across these three license agreements, Cornell is entitled to receive aggregate annual maintenance fees ranging from $30,000 to $300,000 per year, up to $16.0 million in aggregate milestone payments and royalties on sales in the low single-digits, subject to adjustments and minimum thresholds. For the nine months ended September 30, 2017, annual maintenance fees were immaterial. No milestone payments were probable to achieve and none were recorded as of September 30, 2017.

Annapurna may terminate any of these license agreements for convenience upon ninety days written notice. Cornell may terminate any of the license agreements for material breach if such breach is not cured within a specified number of days. Cornell may also terminate the HAE License Agreement and/or the Allergy License Agreement if Annapurna commences any action and files a written claim asserting that any portion of the licensed patent rights is invalid or unenforceable.

Ronald Crystal, M.D., Chairman, Department of Genetic Medicine, the Bruce Webster Professor of Internal Medicine and a Professor of Genetic Medicine and of Medicine at Weill Cornell Medicine, served as a consultant to Annapurna since inception and continues to provide services to the Company for the annual compensation of up to $0.3 million.

REGENXBIO—*A1AT Deficiency/Allergy License Agreement*: In October 2015, Annapurna entered into an exclusive worldwide license to certain intellectual property in order to make, have made, use, import, sell and offer for sale certain licensed products for the treatment of A1AT deficiency. Also, under this agreement, Annapurna has an option to be granted an exclusive worldwide license to

certain intellectual property related to the treatment of severe allergies, which option expired in October 2016. Under this license agreement, REGENXBIO, Inc. ("REGENXBIO") is eligible to receive annual maintenance fees, up to approximately $20.0 million in combined milestone payments and royalties in the mid-to-high single digits.

Unless earlier terminated, this license agreement will be in effect on a country-by-country, licensed product-by-licensed product basis until the expiration, lapse, abandonment, or invalidation of the last claim of the licensed intellectual property to expire, lapse, or become abandoned or unenforceable for the applicable licensed product. Annapurna may terminate this license agreement for any reason upon six months' prior written notice. REGENXBIO may terminate this license agreement if Annapurna is a specified number of days late in paying money due under the license agreement, or if Annapurna, its affiliates, or any sublicensees become insolvent or, effective immediately, if they commence any action against REGENEXBIO or its licensors to declare or render any claim of the licensed patent rights invalid or unenforceable. Either party may terminate this license agreement for material breach if such breach is not cured within a specified number of days.

In April 2017, the Company notified REGENXBIO that Annapurna exercised its right to terminate the license agreement for any reason upon six months' prior written notice. The termination is effective in October 2017.

Friedreich's Ataxia License Agreement: In April 2014, Annapurna entered into an exclusive worldwide license to certain intellectual property related to the FA program to make, have made, use, import, sell and offer for sale licensed products using AAVrh10 for FA where the vector is administered by any route except directly to the central nervous system ("FA Systemic"). Under the terms of this license agreement, Annapurna also had an option to obtain a non-exclusive worldwide license to make, have made, use, import, sell and offer for sale licensed products using a single vector for each of FA where the vector is administered directly to the central nervous system ("FA CNS") and FA Systemic. Under this license agreement, REGENXBIO is eligible to receive annual maintenance fees, up to $13.85 million in combined milestone fees and royalties in the mid-to-high single digits. The option to obtain a non-exclusive license to FA Systemic expired in April 2015 and the option to obtain a non-exclusive license for FA CNS expired in April 2016. Annapurna is obligated to achieve certain development milestones with respect to each licensed disease indication, including the filing of an IND application for each licensed disease indication within a specified time period, which Annapurna may extend for additional time for a specified number of extensions upon the payment of a fee.

Unless earlier terminated, this license agreement expires upon the expiration, lapse, abandonment, or invalidation of the last claim of the licensed intellectual property to expire, lapse, or become abandoned or unenforceable in all the countries of the world. Annapurna Therapeutics Limited may terminate this license agreement upon six months' prior written notice. REGENXBIO may terminate this license agreement if Annapurna Therapeutics Limited is a specified number of days late in paying money due under the license agreement, or if Annapurna Therapeutics Limited, its affiliates, or any sublicensees become insolvent or, effective immediately, if they commence any action against REGENXBIO or its licensors to declare or render any claim of the licensed patent rights invalid or unenforceable. Either party may terminate this license agreement for material breach if such breach is not cured within a specified number of days.

During the nine months ended September 30, 2017, expenses associated with the REGENXBIO agreements were $0.2 million.

Inserm Transfert—In July 2014, Annapurna entered into an agreement with Inserm Transfert (Inserm) whereby Annapurna holds an exclusive license to certain patents to develop, make, have made, use, import, offer for sale and sell or otherwise distribute products for the treatment of FA and a non-exclusive license to certain other intellectual property related to the FA program. The agreement was amended in October 2015 to increase the scope of the intellectual property under the licenses. Under this agreement, Inserm is entitled to receive certain de minimis license payments, certain development milestone payments of up to approximately €2.0 million in the aggregate and royalties on sales in the low single-digits, subject to adjustments. No milestone payments were probable to achieve and none were recorded as of September 30, 2017.

Unless earlier terminated, this agreement will be in effect on a country-by-country, licensed product-by-licensed product basis until the later of the expiration of the last claim of the licensed intellectual property which cover the manufacture, use or sale of such product in such country or 10 years after the first commercial sale of such product in such country in which such product is sold. Upon a country-by-country and product-by-product basis, Annapurna will have a fully paid up, perpetual, irrevocable license with respect to such product in such country under the licensed intellectual property following expiration of this agreement with respect to such product in the applicable country. Annapurna may terminate this agreement upon 60 days' prior written notice. Inserm may terminate this license agreement if Annapurna becomes the subject of a voluntary or involuntary petition in bankruptcy or fails to meet development milestones and such failure is not cured within a specified number of days. Inserm may also terminate the license granted to Annapurna in a given country if Annapurna (i) before regulatory approval of a product in any country, has ceased conducting any development of products in all countries for 12 consecutive months or (ii) after regulatory approval of a product in a given country, has ceased marketing such product in such country for 12 consecutive months.

Pursuant to the terms of the agreement with Inserm, the Company's acquisition of Annapurna triggered a one-time payment to Inserm of €250,000, which was recorded to research and development expense in the Company's consolidated statement of operations during the year ended December 31, 2016.

During the nine months ended September 30, 2017, expenses associated with the Inserm Transfert agreements were $0.3 million.

7. Property and Equipment, Net

Property and equipment, net consists of the following (in thousands):

	September 30, 2017	December 31, 2016
Computer equipment and software	$ 480	$ 300
Laboratory equipment	4,933	4,285
Furniture and fixtures	552	552
Leasehold improvements	1,541	1,522
Construction in progress	16	104
Total property and equipment	7,522	6,763
Less accumulated depreciation and amortization	(4,175)	(2,594)
Property and equipment, net	$ 3,347	$ 4,169

Depreciation and amortization expense related to property and equipment for the three months ended September 30, 2017 and 2016 was $0.5 million and $0.4 million, respectively. Depreciation and amortization expense related to property and equipment for the nine months ended September 30, 2017 and 2016 was $1.6 million and $1.1 million, respectively.

8. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following (in thousands):

	September 30, 2017	December 31, 2016
Employees' compensation expenses	$ 1,628	$ 2,570
Accrued preclinical costs	805	1,683
Accrued clinical and process development costs	669	1,142
Accrued professional services	725	894
Accrued contract settlement	2,000	—
Other	235	162
Total accrued expenses and other current liabilities	$ 6,062	$ 6,451

9. Other Non-current Liabilities

In August 2015, Banque Publique d'Investissement ("BPI France") granted Annapurna a €0.5 million interest free conditional advance. Payments are scheduled in equal quarterly amounts of €25,000 from September 30, 2017 to June 30, 2022. This payment schedule will be modified if the Company receives revenue from license or product sales before advances are paid in full. The Company calculated 7% imputed interest expense on these advances that was recorded as a discount at the issuance date. The discount is amortized as an interest expense over the life of the advances. As of September 30, 2017, the carrying value of this interest-free conditional advance, which approximates its fair value, was $0.4 million, of which $0.3 million is recorded within other non-current liabilities and $0.1 million within accrued expenses and other current liabilities in the Company's condensed consolidated balance sheets. Interest expense for this interest-free conditional advance was immaterial for the three and nine months ended September 30, 2017.

In July 2016, the Company entered into a sponsored research agreement with The Alpha-1 Project, Inc. ("TAP") to fund the Company's A1AT research activities of up to $0.3 million, of which $0.1 million was received during the year ended December 31, 2016 ("TAP financing arrangement"). The Company may repay up to 4.5 times the received amount if and when certain product approval and sales milestones are achieved. As of September 30, 2017, the estimated fair value of the TAP financing arrangement was $0.1 million, which was recorded within other noncurrent liabilities in the Company's condensed consolidated balance sheets.

10. Commitments and Contingencies

Facility Lease Agreement

The Company leases its office building under a non-cancelable lease agreement, which expires on May 8, 2020. The Company may extend this lease for up to four years. The lease agreement provides for an escalation of rent payments each year. The Company records rent expense on a straight-line basis over the term of the lease.

Rent expense recognized under the operating lease, including additional rent charges for utilities, parking, maintenance, and real estate taxes was $1.4 million and $1.3 million for the nine months ended September 30, 2017 and 2016, respectively.

Collaborations and License Agreements

The Company is a party to various agreements, principally relating to licensed technology that requires payment of annual maintenance fees and future payments relating to milestones or royalties on future sales of specified products. The Company expenses the annual maintenance fees on a straight-line basis and accrues the aggregate balances until invoiced or paid. Through September 30, 2017, none of the goals had been achieved under the license agreements and no cash milestones were accrued or payable. Since the achievement of these milestones is not fixed and determinable, such commitments have not been included in the Company's condensed consolidated balance sheets.

Guarantees and Indemnifications

In the normal course of business, the Company enters into contracts and agreements that contain a variety of representations and warranties and provide for indemnification for certain liabilities. The exposure under these agreements is unknown because it involves claims that may be made against the Company in the future but have not yet been made. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. However, the Company may record charges in the future as a result of these indemnification obligations. The Company also has indemnification obligations to its directors and executive officers for specified events or occurrences, subject to some limits, while they are serving at the Company's request in such capacities. There have been no claims to date and the Company believes the fair value of these indemnification agreements is minimal. Accordingly, the Company has not recorded any liabilities for these agreements as of September 30, 2017.

Legal Proceedings

From time to time, the Company may become involved in litigation and other legal actions. The Company estimates the range of liability related to any pending litigation where the amount and range of loss can be estimated. The Company records its best estimate of a loss when the loss is considered probable. Where a liability is probable and there is a range of estimated loss with no best estimate in the range, the Company records a charge equal to at least the minimum estimated liability for a loss contingency when both of the following conditions are met: (i) information available prior to issuance of the financial statements indicates that it is probable that a liability had been incurred at the date of the financial statements and (ii) the range of loss can be reasonably estimated.

In July 2015, three securities class action lawsuits were filed against the Company and certain of its officers in the United States District Court for the Northern District of California, each on behalf of a purported class of persons and entities who purchased or otherwise acquired the Company's publicly traded securities between July 31, 2014 and June 15, 2015. The lawsuits assert claims under the Securities Exchange Act of 1934, as amended (the "Exchange Act") and Securities Act of 1933, as amended (the "Securities Act") and allege that the defendants made materially false and misleading statements and omitted allegedly material information related to, among other things, the Phase 2a clinical trial for AVA-101, a product candidate which is no longer being developed, and the prospects of AVA-101. The complaints seek unspecified damages, attorneys' fees and other costs.

In December 2015, a putative securities class action lawsuit was filed against the Company, the Company's board of directors, underwriters of the Company's January 13, 2015, follow-on public stock offering, and two of the Company's institutional stockholders, in the Superior Court of the State of California for the County of San Mateo. The complaint alleges that, in connection with the Company's follow-on stock offering, the defendants violated the Securities Act by allegedly making materially false and misleading statements and by allegedly omitting material information related to the Phase 2a clinical trial for AVA-101 and the prospects of AVA-101. The complaint seeks unspecified compensatory and rescissory damages, attorneys' fees and other costs. The plaintiff has dismissed the two institutional stockholder defendants.

On March 16, 2017, the Company reached an agreement to settle the asserted actions. The proposed aggregate amount of the settlement is $13.0 million, of which $1.0 million would be contributed by the Company to cover its indemnification obligations to the underwriters, and the remainder would be contributed by the Company's insurers. The settlement is subject to definitive documentation, shareholder notice and court approval. The Company and the defendants have denied and continue to deny each and all of the claims alleged in the actions, and the settlement does not assign or reflect any admission of fault, wrongdoing or liability as to any defendant. If final court approval is not obtained with respect to the settlement or the settlement otherwise does not become effective and litigation resumes, adverse outcomes in the actions could result in substantial damages. The Company recorded $1.0 million as general and administrative expense during the three months ended March 31, 2017, when the amount and time of settlement became estimable and probable.

11. Stock Plans

The Company's 2014 Equity Incentive Award Plan ("2014 Plan") permits the issuance of stock options ("options"), restricted stock units (RSUs) and other types of awards to employees, directors, and consultants.

As of September 30, 2017, a total of 14,834,856 shares of common stock were authorized for issuance and 1,631,908 shares were available for future grants under the 2014 Plan.

In July 2014, the Company's board of directors and its stockholders approved the establishment of the 2014 Employee Stock Purchase Plan ("2014 ESPP"). During the nine months ended September 30, 2017 and 2016, 35,954 shares and 52,002 shares, respectively, were issued under the 2014 ESPP. A total of 1,000,783 shares of common stock were reserved for issuance under the 2014 ESPP and were available for issuance under the 2014 ESPP as of September 30, 2017.

The following table summarizes option activity under the Company's stock plans and related information:

	Number of Options (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (In years)	Aggregate Intrinsic Value (a) (in thousands)
Balance at December 31, 2016	7,449	$ 4.46		
Options granted	1,897	2.80		
Options exercised	(1,491)	0.21		
Options cancelled	(485)	10.08		
Balance at September 30, 2017	7,370	$ 4.52	7.8	$ 11,518
Vested and expected to vest as of September 30, 2017	7,370	$ 4.52	7.8	$ 11,518
Exercisable as of September 30, 2017	3,459	$ 4.91	6.8	$ 7,227

(a) The aggregate intrinsic value is calculated as the difference between the option exercise price and the closing price of common stock of $3.65 per share as of September 30, 2017.

The options granted during 2016, included stock options for 3,673,940 shares of the Company's common stock granted in exchange for Annapurna stock options at $0.21 exercise price per share. A total of 1,428,000 shares of stock options granted outside of the 2014 Plan in June 2016 and December 2015 were not included in the table above.

The weighted-average fair values of options granted during the nine months ended September 30, 2017 and 2016 were $1.95 and $1.27, respectively. The total intrinsic value of options exercised during the nine months ended September 30, 2017 and 2016 were $3.7 million and $7.1 million, respectively.

The Company has recorded aggregate stock-based compensation expense related to the issuance of stock awards to employees and nonemployees in the condensed consolidated statement of operations and comprehensive loss as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Research and development	$ 1,698	$ 1,608	$ 4,335	$ 5,748
General and administrative	1,002	1,334	2,504	4,104
Total share-based compensation	$ 2,700	$ 2,942	$ 6,839	$ 9,852

During the three and nine months ended September 30, 2016, respectively, stock-based compensation expense included additional charges related to stock modifications in connection with the separation agreements for certain of the Company's executive officers. For the three months ended September 30, 2016, an additional charge of $0.5 million was recorded within general and administrative expense. For the nine months ended September 30, 2016, an additional charge of $1.4 million was recorded within research and development expense and $1.5 million was recorded within general and administrative expense.

As of September 30, 2017, unrecognized compensation cost related to unvested employee options was $10.5 million, which is expected to be recognized over a weighted-average remaining period of 2.4 years.

Restricted Stock Units

RSUs are share awards that entitle the holder to receive freely tradable shares of the Company's common stock upon vesting. The fair value of RSUs is based upon the closing sales price of the Company's common stock on the grant date. RSUs granted to employees generally vest over a two to four year period.

The following table summarizes the RSU activity under the Company's stock plans and related information:

	Number of Units (in thousands)	Weighted-Average Grant-Date Fair Value (in dollars)	Weighted-Average Remaining Contractual Term (in years)
Outstanding at December 31, 2016	1,049	$ 5.47	1.7
Granted	2,246	2.72	
Vested and released	(290)	6.64	
Forfeited	(537)	3.90	
Outstanding at September 30, 2017	2,468	$ 3.17	1.8

The total fair value of RSUs that vested during the nine months ended September 30, 2017 and 2016 was $1.9 million and $4.0 million, respectively. As of September 30, 2017, unrecognized compensation cost related to unvested RSUs was $6.5 million, which is expected to be recognized over a weighted-average remaining period of 3.1 years.

Stock Options Granted to Employees

The fair value of each option issued to employees was estimated at the date of grant using the Black-Scholes valuation model with the following weighted-average assumptions:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Option grants:				
Expected volatility	84%	81%	81%	81%
Expected term (in years)	5.8	6.0	6.0	5.9
Expected dividend yield	—	—	—	—
Risk-free interest rate	1.8%	1.4%	1.9%	1.3%

Stock Options Granted to Non-Employees

Stock-based compensation related to options granted to non-employees is measured and recognized as the options are earned. The Company believes that the estimated fair value of the options is more readily measurable than the fair value of the services rendered. The following weighted-average assumptions were used in estimating non-employees' stock-based compensation expenses:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Option grants:				
Expected volatility	87%	84%	84%	83%
Expected term (in years)	8.8	8.0	8.9	7.5
Expected dividend yield	—	—	—	—
Risk-free interest rate	2.2%	1.6%	2.2%	1.6%

As of September 30, 2017, unrecognized stock-based compensation expense related to non-employees' options was $0.7 million, which was expected to be recognized over a weighted-average remaining period of 1.8 years.

12. 401(k) Savings Plan

The Company established a defined-contribution savings plan under Section 401(k) of the Code (the 401(k) Plan). The 401(k) Plan covers all employees who meet defined minimum age and service requirements, and allows participants to defer a portion of their annual compensation on a pretax basis. For the nine months ended September 30, 2017 and 2016, the Company contributed $0.3 million and $0.2 million, respectively, to the 401(k) Plan.

13. Net Loss per Share

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of shares of common stock outstanding for the period. Diluted net loss per share is computed by giving effect to all potential dilutive common stock equivalents outstanding for the period. Diluted net loss per share is the same as basic net loss per share for all periods presented, since the effects of potentially dilutive securities are antidilutive.

We have excluded warrants and equity awards to purchase approximately 10.0 million and 8.7 million shares of the Company's common stock that were outstanding as of September 30, 2017 and 2016, respectively, in the computation of diluted net loss per share attributable to common stockholders because their effect was antidilutive.

14. Subsequent Event

On October 6, 2017, our Board of Directors adopted the Adverum Biotechnologies, Inc. 2017 Inducement Plan (the "Inducement Plan") pursuant to which we reserved 600,000 shares for issuance pursuant to stock options and restricted stock units under the Inducement Plan. The only persons eligible to receive grants of stock options and restricted stock units under Inducement Plan are individuals who satisfy the standards for inducement grants under Nasdaq Marketplace Rule 5635(c)(4) and the related guidance under Nasdaq IM 5635-1 – that is, generally, a person not previously an employee or director of Adverum, or following a bona fide period of non-employment, as an inducement material to the individual's entering into employment with Adverum.

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

The interim financial statements included in this Quarterly Report on Form 10-Q and this Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with the financial statements and notes thereto for the year ended December 31, 2016, and the related Management's Discussion and Analysis of Financial Condition and Results of Operations, contained in our Annual Report on Form 10-K, as filed with the U.S. Securities and Exchange Commission (SEC) on March 9, 2017. In addition to historical information, this discussion and analysis contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (Exchange Act). These forward-looking statements are subject to risks and uncertainties, including those risks described in "Part I - Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016, and in our Quarterly Report on Form 10-Q for the period ended March 31, 2017, and elsewhere in this report that could cause actual results to differ materially from historical results or anticipated results.

Overview

Adverum is a gene therapy company targeting unmet medical needs in serious rare and ocular diseases. We are leveraging our next-generation adeno-associated virus ("AAV")-based directed evolution platform to generate gene therapy product candidates designed to provide durable efficacy by inducing sustained expression of a therapeutic protein. Our core capabilities include clinical development, novel vector development, and in-house manufacturing expertise, specifically in process development, assay development and Good Manufacturing Practices quality control. Our leadership team has significant drug development and gene therapy expertise.

We are advancing our robust pipeline of gene therapy candidates designed to treat rare diseases alpha-1 antitrypsin ("A1AT") deficiency and hereditary angioedema ("HAE") as well as in wet age-related macular degeneration ("wAMD").

For the treatment of A1AT deficiency, we are advancing our gene therapy candidate ADVM-043 (AAVrh10-A1AT) into clinical development. This therapy has the potential to induce stable, long-term A1AT expression at therapeutic levels following a single-administration treatment, as seen in preclinical proof-of-concept studies. ADVM-043 has an open Investigational New Drug ("IND") application with the U.S. Food and Drug Administration ("FDA"). We plan to begin patient enrollment in a Phase 1/2 trial (the ADVANCE trial) in the fourth quarter of 2017. Site activation is underway at five leading centers in the United States and we continue to prepare for release of ADVM-043 drug product to the sites to support first patient dosing. In addition, we are working closely with the Alpha-1 Foundation to identify potential patients for this trial. This multi-center, open-label, dose-escalation clinical trial plans to evaluate ADVM-043 in three cohorts of patients receiving intravenous administration and one cohort receiving intrapleural administration. The trial is designed to assess the safety and protein expression of ADVM-043, and further details about the study can be found at ClinicalTrials.gov under trial identifier number NCT02168686. We expect to report preliminary data from this trial in the second half of 2018.

We are also advancing ADVM-053 (AAVrh10-C1EI) to treat the rare disease HAE. In a prior preclinical study, a single intravenous administration of ADVM-053 increased C1 esterase inhibitor ("C1EI") protein expression above therapeutic levels and decreased vascular permeability. We held a pre-IND meeting with the FDA in the first quarter of 2017 and plan to file an IND in the second half of 2018.

For the ocular disease wAMD, we are advancing a new anti-VEGF gene therapy candidate, ADVM-022 (AAV.7m8-aflibercept) and plan to file an IND application with the FDA in the second half of 2018. ADMV-022 utilizes a proprietary vector capsid (AAV.7m8) and a proprietary expression cassette and is administered intravitreally. Preclinical data demonstrate that ADVM-022 has the potential to minimize the treatment burden of frequent injections. At scientific meetings in 2016, we presented preclinical proof-of-concept data of ADVM-022's anti-angiogenic effect in the laser-induced choroidal neovascularization ("CNV") model in non-human primates, the industry standard for testing new wAMD therapies. The data from a single injection of ADVM-022 showed efficacy that was comparable to the anti-VEGF standard of care, the positive control in the CNV model. At scientific meetings in September 2017, additional long-term data from Adverum were presented, which continued to demonstrate sustained expression of anti-VEGF protein following a single intravitreal injection of ADVM-022. Pharmacokinetic data on one non-human primate demonstrated sustained expression for 52 weeks. In a separate ongoing study, sustained expression for at least seven months has been observed in several non-human primates. In this ongoing preclinical study, we continue to assess the durability of protein expression in non-human primates and expect to report 12-month efficacy data in the first half of 2018.

Our earlier-stage research programs include gene therapies targeting cardiomyopathy associated with Friedreich's ataxia and severe allergy.

Our partnered programs include vectors we are developing under collaboration agreements. Under an agreement with Editas Medicine, we are leveraging our AAV-vectors for use with Editas' leading CRISPR-based genome editing technologies to treat up to

five inherited retinal diseases. Our agreement with Regeneron provides for development of up to eight distinct ocular therapeutic targets, four of which are already identified, including AVA-311 for the treatment of juvenile X-Linked Retinoschisis (XLRS).

Financial Overview

Summary

We have not generated positive cash flow or net income from operations since our inception and, as of September 30, 2017, we had an accumulated deficit of $239.3 million, primarily as a result of research and development, general and administrative expenses, impairment of goodwill and intangible assets, and restructuring charges. We expect to incur substantial expenses and increasing losses from operations in the foreseeable future as we continue our research and development efforts, advance our product candidates through preclinical and clinical development, manufacture clinical study materials, seek regulatory approval and prepare for, and if approved, proceed to commercialization. We are at an early stage of development and may never be successful in developing or commercializing our product candidates.

While we may in the future generate revenue from a variety of sources, including license fees, milestone and research and development payments in connection with strategic partnerships, and potentially revenue from approved product sales, we have not yet generated any revenue from approved therapeutic product candidates.

We entered into our first research, collaboration and license revenue-generating agreement with Regeneron in May 2014. We entered into the collaboration, option and license agreement with Editas in August 2016 that also is a revenue agreement as discussed in Note 6, *Significant Agreements*, of the notes to condensed consolidated financial statements included in this Form 10-Q. We have no clinical or commercial manufacturing facilities, and all of our clinical manufacturing activities are contracted out to third parties. Additionally, we plan to use third-party clinical research organizations (CROs) to carry out our clinical development and we do not yet have a sales organization.

We expect to incur substantial and increasing expenditures in the foreseeable future for the development and potential commercialization of our product candidates. We will need substantial additional funding in the future to support our operating activities as we advance our product candidates through preclinical and clinical development, seek regulatory approval and prepare for and, if approved, proceed to commercialization. Adequate funding may not be available to us on acceptable terms, or at all. If we are unable to raise capital, or to do so on acceptable terms, when needed, or to form additional collaboration partnerships to support our efforts, we could be forced to delay, reduce or eliminate our research and development programs or potential commercialization efforts.

As of September 30, 2017, we had $186.6 million in cash, cash equivalents and short-term investments. We believe that we have sufficient funds to continue our operations through the end of 2019.

Revenue

To date we have not generated any revenue from the sale of our products. In May 2014, we entered into a research, collaboration and license agreement with Regeneron. Under the terms of the agreement, we received initial payments of $8.0 million that included payment for research license fees, prepaid collaboration research costs and the right of first negotiation for a potential license to develop and commercialize AVA-101, a prior wAMD gene therapy that is no longer in development. As the agreement provides for multiple deliverables, we account for this agreement as a multiple elements revenue arrangement. If deliverables do not appear to have a standalone fair value, they were combined with other deliverables into a unit of accounting with standalone fair value. We allocated the $8.0 million received to the fair values of the two units of accounting identified in the arrangement. We expect to recognize $6.5 million for research licenses and related research and development services ratably over the associated period of performance, which is the maximum research period of eight years. As there is no discernible pattern of performance and/or objectively measurable performance measures do not exist, we will recognize revenue on a straight-line basis over the eight-year performance period. The remaining $1.5 million allocated to the second unit of accounting for the time-limited right of first negotiation for AVA-101 was deferred. On November 2, 2015, Regeneron notified the management that it was not exercising this right of first negotiation and we recognized the entire $1.5 million as revenue in 2015. On February 23, 2017, Regeneron notified us that pursuant to the terms of the research, collaboration and license agreement, it is extending the research term of the license and development agreement for an additional three years, through May 1, 2020.

The portion of the upfront payment that was applied to the original research budget was fully used in the fourth quarter of 2015, and Adverum and Regeneron, through a joint review committee, are to agree annually on an updated research and development services budget through the research period. We invoice Regeneron quarterly for services, if any, performed in the prior quarter. These

additional research fees are added to the research licenses and related research and development services unit of accounting, recorded as deferred revenue and recognized to revenue over the remaining maximum research term.

Under our research, collaboration and license agreement with Regeneron, we are required to have a mutually agreed-on research plan with Regeneron in order to invoice Regeneron for services performed. We do not currently have a research plan in place, and, consequently, we are not currently receiving any reimbursements from Regeneron.

In August 2016, we entered into a collaboration, option and license agreement with Editas. Under the terms of the agreement, we received initial payments of $1.0 million that included $0.5 million for research services. As the agreement provides for multiple deliverables, we accounted for this agreement as a multiple elements revenue arrangement. At the inception of the agreement, identified deliverables include research services, manufacturing of viral vectors for research, participation in the joint research committee and exclusivity during the option period. These deliverables did not appear to have a standalone value and were combined into one unit of accounting. Options for each indication to license our AAV vector are considered substantive options and do not include significant incremental discounts. Therefore, they are not considered as deliverables under the agreement. We allocated the $1.0 million received to a single unit of accounting identified in the arrangement. We recognize $1.0 million ratably over the associated period of performance, which is the maximum research period of three years. As there is no discernible pattern of performance and/or objectively measurable performance measures do not exist, we recognize revenue on a straight-line basis.

As of September 30, 2017, we had total deferred revenue of $7.6 million. We recognized $0.5 million and $0.4 million of revenue during the three months ended September 30, 2017 and 2016, respectively, and $1.4 million and $1.0 million of revenue during the nine months ended September 30, 2017 and 2016, respectively.

Our ability to generate product revenue and become profitable depends upon our ability to successfully develop and commercialize our product candidates. Because of the numerous risks and uncertainties associated with product development, we are unable to predict the amount or timing of product revenue. Even if we are able to generate revenue from the sale of our products, we may be unable to continue our operations at planned levels and be forced to reduce our operations.

Research and Development Expenses

Conducting a significant amount of research and development is central to our business model. Research and development expenses include certain payroll and personnel expenses, stock-based compensation expense, laboratory supplies, consulting costs, external contract research and development expenses, including expenses incurred under agreements with CROs, the cost of acquiring, developing and manufacturing clinical study materials and overhead expenses, including rent, equipment depreciation, insurance and utilities.

Research and development costs are expensed as incurred. Advance payments for goods or services for future research and development activities are deferred and expensed as the goods are delivered or the related services are performed.

We estimate preclinical study and clinical trial expenses based on the services performed pursuant to contracts with research institutions and CROs that conduct and manage preclinical studies and clinical trials on our behalf. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. We estimate the amounts incurred through communications with third party service providers and our estimates of accrued expenses as of each balance sheet date are based on information available at the time. If the actual timing of the performance of services or the level of effort varies from the estimate, we will adjust the accrual accordingly.

At this time, we cannot reasonably estimate the nature, timing or aggregate costs of the efforts that will be necessary to complete the development of any of our product candidates. The successful development and commercialization of a product candidate is highly uncertain, and clinical development timelines, the probability of success, and development and commercialization costs can differ materially from expectations.

We have received refundable tax credits from the Australian and French tax authorities in connection with certain research costs incurred by our subsidiary conducting research in Australia and France. These refunds do not depend on our taxable income or tax position and therefore we do not account for them under an income tax accounting model. We recognize such refunds as government grants in the period when qualified expenses are incurred as a reduction of research expenses. We have recorded the reimbursement from the Australian and French tax authorities as a reduction of research and development expense in the consolidated statements of operations and comprehensive loss for the applicable period. During the nine months ended September 30, 2017 and 2016, tax credits received were immaterial.

General and Administrative Expenses

General and administrative expenses consist principally of personnel-related costs, stock-based compensation, professional fees for legal, consulting, audit and tax services, rent and other general operating expenses not otherwise included in research and development expenses. Our general and administrative expenses may increase in future periods if and to the extent we elect to increase our investment in infrastructure to support continued research and development activities and potential commercialization of our product candidates. We will continue to evaluate the need for such investment in conjunction with our ongoing consideration of our pipeline of product candidates. We anticipate increased expenses related to audit, legal and regulatory functions, as well as director and officer insurance premiums and investor relations costs associated with being a public reporting company.

Other Income (Expense), Net

Other income (expense), net comprises mainly interest income on our cash equivalents and investments in marketable securities.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of financial condition and results of operations are based upon our unaudited condensed consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP). The preparation of these condensed consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an on-going basis, we evaluate our critical accounting policies and estimates. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable in 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. Actual results may differ from these estimates under different assumptions and conditions. Our significant accounting policies are more fully described in Note 2 to our audited consolidated financial statements contained in our Annual Report on Form 10-K (Annual Report) as filed with the SEC, on March 9, 2017.

Results of Operations

Comparison of the Three and Nine Months Ended September 30, 2017 and 2016 (dollars in thousands)

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2017	2016	Change	2017	2016	Change
Collaboration revenue	$ 463	$ 395	$ 68	$ 1,388	$ 967	$ 421
Operating expenses:						
Research and development	10,272	8,362	1,910	27,825	23,772	4,053
General and administrative	4,762	6,146	(1,384)	16,815	19,578	(2,763)
Goodwill impairment charge	—	394	(394)	—	49,514	(49,514)
Total operating expenses	15,034	14,902	132	44,640	92,864	(48,224)
Operating loss	(14,571)	(14,507)	(64)	(43,252)	(91,897)	48,645
Other income, net	742	206	536	1,894	544	1,350
Net loss	$ (13,829)	$ (14,301)	$ 472	$ (41,358)	$ (91,353)	$ 49,995

Revenue

Collaboration revenue increased by $0.1 million and $0.4 million for the three and nine months ended September 30, 2017, respectively, as compared to the same periods last year, primarily due to amortization of additional billings related to our collaboration agreements with Regeneron and Editas.

Research and Development Expense

Research and development expenses increased by $1.9 million and $4.1 million for the three and nine months ended September 30, 2017, respectively, as compared to the same periods last year, primarily due to an overall increase in research and development activity for our gene therapy programs. For the three months ended September 30, 2017, the increase was due to $2.7 million of higher material production costs primarily for ADVM-043 for A1AT deficiency, partially offset by $0.7 million of lower outside consulting expenses related to toxicology studies. For the nine months ended September 30, 2017, the increase was due to $4.4 million of higher material production and outside service costs primarily for ADVM-043 and $1.2 million of higher professional fees to support our ongoing research and development activity. These increases were partially offset by $1.4 million of lower stock-based compensation

expense mainly attributable to a one-time charge of stock-based compensation expense related to accelerated vesting of one of our executive employees' stock awards during the nine months ended September 30, 2016.

For the periods presented, substantially all of our research and development expense related to Adverum development activities for our A1AT deficiency, wAMD and HAE programs and earlier-stage research programs. Upon completion of the Annapurna acquisition in May 2016, we began incurring expenses related to Annapurna's four rare disease development programs. We expect that research and development expenses will increase in future periods as we continue to invest in our three lead gene therapy programs and earlier-stage research programs.

General and Administrative Expense

General and administrative expenses decreased by $1.4 million and $2.8 million for the three and nine months ended September 30, 2017, respectively, as compared to the same periods last year. For the three months ended September 30, 2017, the decrease was primarily due to lower compensation and benefits expenses mainly attributable to the severance charges for some of our executives during the three months ended September 30, 2016. For the nine months ended September 30, 2017, the decrease was primarily due to $1.6 million of lower stock-based compensation expense mainly attributable to one-time charges of stock-based compensation expense related to accelerated vesting of exiting executive employees' stock awards during the nine months ended September 30, 2016 and $3.0 million of lower consulting and professional fees mainly attributable to the Annapurna acquisition activities and shareholders' litigation during the nine months ended September 30, 2016, partially offset by $2.0 million of estimated termination costs associated with our master service agreement with Cornell University.

We expect general and administrative expenses will increase in future periods to support continued research and development initiatives of our product candidates. We will continue to assess such expenses as we advance our three lead gene therapy programs and earlier-stage research programs.

Goodwill Impairment Charge

As we recorded goodwill and IPR&D intangible assets upon the acquisition of Annapurna, we are required to test goodwill and indefinite-lived intangible assets for impairment on an annual basis or more frequently if indicators of impairment exist. We operate as one reporting unit and goodwill was recorded to this reporting unit. We fully impaired our goodwill from the Annapurna acquisition and recorded a goodwill impairment charge of $0.4 million and $49.5 million for the three and nine months ended September 30, 2016.

Other Income, Net

Other income, net increased by $0.5 million and $1.4 million for the three and nine months ended September 30, 2017, respectively, as compared to the same periods last year, primarily due to higher interest income as we increased our investments in marketable securities.

Liquidity and Capital Resources and Plan of Operations

We have not generated positive cash flow or net income from operations since our inception and, as of September 30, 2017, we had an accumulated deficit of $239.3 million, primarily as a result of research and development and general and administration expenses. As of September 30, 2017, we had $186.6 million in cash, cash equivalents and short-term investments, as compared to $222.2 million in cash and cash equivalents as of December 31, 2016. We believe that our existing cash and cash equivalents and short-term investments as of September 30, 2017 will be sufficient to fund our operations through the end of 2019.

We expect to incur substantial expenditures in the foreseeable future for the development and potential commercialization of our product candidates and ongoing internal research and development programs. At this time, we cannot reasonably estimate the nature, timing or aggregate amount of such costs. However, in order to complete our planned preclinical trials and any future clinical trials, and to complete the process of obtaining regulatory approval for our product candidates, as well as to build the sales, marketing and distribution infrastructure that we believe will be necessary to commercialize our product candidates, if approved, we will require substantial additional funding in the future.

If and when we seek additional funding, we will do so through equity or debt financings, collaborative or other arrangements with corporate sources or through other sources of financing. Adequate additional funding may not be available to us on acceptable terms or at all. Our failure to raise capital in the future could have a negative impact on our financial condition and our ability to pursue our

business strategies. In order to complete development and commercialization of any of our product candidates, we anticipate that we will need to raise substantial additional capital, the requirements of which will depend on many factors, including:

- the initiation, progress, timing, costs and results of preclinical studies and clinical trials for our product candidates;
- the outcome, timing of and costs involved in, seeking and obtaining approvals from the FDA and other regulatory authorities, including the potential for the FDA and other regulatory authorities to require that we perform more studies than those that we currently expect;
- the ability of our product candidates to progress through clinical development activities successfully;
- our need to expand our research and development activities;
- the rate of progress and cost of our commercialization of our products;
- the cost of preparing to manufacture our products on a larger scale;
- the costs of commercialization activities including product sales, marketing, manufacturing and distribution;
- the degree and rate of market acceptance of any products launched by us or future partners;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- our need to implement additional infrastructure and internal systems;
- our ability to hire additional personnel;
- our ability to enter into additional collaboration, licensing, commercialization or other arrangements and the terms and timing of such arrangements, and;
- the emergence of competing technologies or other adverse market developments.

If we are unable to raise additional funds when needed, we may be required to delay, reduce, or terminate some or all of our development programs and clinical trials. We may also be required to sell or license other technologies or clinical product candidates or programs that we would prefer to develop and commercialize ourselves.

Cash Flows

	Nine Months Ended September 30,	
	2017	2016
	(in thousands)	
Net cash used in operating activities	$ (33,223)	$ (30,024)
Net cash provided by (used in) investing activities	(156,895)	39,699
Net cash provided by financing activities	103	353
Effect of foreign currency exchange rate	(442)	(105)
Net increase (decrease) in cash and cash equivalents	$ (190,457)	$ 9,923

Cash Used in Operating Activities

During the nine months ended September 30, 2017, net cash used in operating activities was $33.2 million, primarily as a result of the net loss of $41.4 million and $0.7 million of net decrease in operating assets and liabilities, partially offset by $8.9 million of non-cash charges mainly related to stock-based compensation expense and depreciation and amortization expense.

During the nine months ended September 30, 2016, net cash used in operating activities was $30.0 million, primarily as a result of the net loss of $91.4 million, partially offset by $60.5 million of non-cash charges mainly attributed to goodwill impairment charge, stock-based compensation expense and depreciation and amortization.

Cash Provided by (Used in) Investing Activities

Net cash provided by investing activities for the nine months ended September 30, 2017, was $156.9 million, primarily due to $201.0 million of purchases of marketable securities and $0.9 million of purchases of property and equipment, partially offset by $45.1 million of maturities of marketable securities.

Net cash provided by investing activities for the nine months ended September 30, 2016 was $39.7 million, primarily a result of $37.7 million from the maturities of marketable securities and $3.5 million of cash acquired in a business combination, partially offset by $1.5 million of purchases of property and equipment.

Purchases of property and equipment primarily consisted of the acquisition of laboratory equipment to support our research and development activities.

Cash Provided by Financing Activities

The net cash provided by financing activities of $0.1 million for the nine months ended September 30, 2017 was primarily a result of the proceeds from exercises of stock options, partially offset by taxes paid related to net share settlement of restricted stock units.

The net cash provided by financing activities of $0.4 million for the nine months ended September 30, 2016 was primarily a result of the proceeds from exercises of stock options, partially offset by taxes paid related to net share settlement of restricted stock units.

Contractual Obligations and Commitments

We have lease obligations consisting of an operating lease for our operating facility that expires in 2020. The lease provides an option to extend the lease term for up to four years.

In December 2016, we informed Cornell University, or Cornell, that we decided to terminate our master services agreement, or MSA, with Cornell effective January 6, 2017. Subsequently, Cornell informed us that it disputes the validity of our termination of the MSA. Although we intend to defend the validity of our termination of the MSA, we recorded $2.0 million of estimated costs associated with the termination of the MSA, which is recorded within accrued expenses and other current liabilities in our condensed consolidated balance sheet as of September 30, 2017 and within general and administrative expenses in our condensed consolidated statement of operations for the nine months ended September 30, 2017.

We are obligated to make future payments to third parties under in-license agreements, including sublicense fees, royalties and payments that become due and payable on the achievement of certain development and commercialization milestones. As the amount and timing of sublicense fees and the achievement and timing of these milestones are not probable and estimable, such commitments have not been included on our balance sheet. Our contractual obligations and commitments have not changed materially from those described in our Annual Report on Form 10-K for the year ended December 31, 2016, other than as described above.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements as defined in Regulation S-K, item 303(a)(4)(ii).

Item 3. Quantitative and Qualitative Disclosures about Market Risk

There have not been any material changes to our exposure to market risk during the nine months ended September 30, 2017. For additional information regarding market risk, refer to the *Qualitative and Quantitative Disclosures About Market Risk* section of our Annual Report on Form 10-K.

Item 4. Controls and Procedures

Evaluation of disclosure controls and procedures. Management, including our Principal Executive Officer and Principal Financial Officer, evaluated the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, as of September 30, 2017. The evaluation of our disclosure controls and procedures included a review of our processes and implementation and the effect on the information generated for use in this Quarterly Report on Form 10-Q. In the course of this evaluation, we sought to identify any material weaknesses in our disclosure controls and procedures to determine whether we had identified any acts of fraud involving personnel who have a significant role in our disclosure controls and procedures, and to confirm that necessary corrective action, including process improvements, was taken. This type of evaluation is done quarterly so that our conclusions concerning the effectiveness of these controls can be reported in our periodic reports filed with the SEC. The overall goals of these evaluation activities are to monitor our disclosure controls and procedures and to make modifications as necessary. We intend to maintain these disclosure controls and procedures, modifying them as circumstances warrant.

Based on that evaluation, the Principal Executive Officer and Principal Financial Officer concluded that, as of September 30, 2017, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us

in the reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported as and when required and (ii) accumulated and communicated to our management, including the Principal Executive Officer and Principal Financial Officer, as appropriate to allow timely discussion regarding required disclosure.

Changes in internal control over financial reporting. There have been no changes in our internal control over financial reporting during the three and nine months ended September 30, 2017 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Controls and Procedures

Our management, including the Principal Executive Officer and the Principal Financial Officer, does not expect that our disclosure controls and procedures and our internal controls will prevent all error and all fraud. A control system, no matter how well designed and operated, can only provide reasonable assurances that the objectives of the control system are met. The design of a control system reflects resource constraints; the benefits of controls must be considered relative to their costs. Because there are inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been or will be detected. As these inherent limitations are known features of the financial reporting process, it is possible to design into the process safeguards to reduce, though not eliminate, these risks. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns occur because of simple error or mistake. Controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls is based in part upon certain assumptions about the likelihood of future events. While our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives, there can be no assurance that any design will succeed in achieving its stated goals under all future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with the policies or procedures. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

We intend to review and evaluate the design and effectiveness of our disclosure controls and procedures on an ongoing basis, to improve our controls and procedures over time and to correct any deficiencies that we may discover in the future. While our Principal Executive Officer and Principal Financial Officer have concluded that, as of September 30, 2017, the design of our disclosure controls and procedures, as defined in Rule 13a-15(e) under the Exchange Act, was effective, future events affecting our business may cause us to significantly modify our disclosure controls and procedures.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

In July 2015, three securities class action lawsuits were filed against us and certain of our officers in the United States District Court for the Northern District of California, each on behalf of a purported class of persons and entities who purchased or otherwise acquired our publicly traded securities between July 31, 2014 and June 15, 2015. The lawsuits assert claims under the Exchange Act and Securities Act and allege that the defendants made materially false and misleading statements and omitted allegedly material information related to, among other things, the Phase 2a clinical trial for AVA-101 and the prospects of AVA-101. The complaints seek unspecified damages, attorneys' fees and other costs.

In December 2015, a securities class action lawsuit was filed against us, our board of directors, underwriters of our January 13, 2015, follow-on public stock offering, and two of our institutional stockholders, in the Superior Court of the State of California for the County of San Mateo. The complaint alleges that, in connection with our follow-on stock offering, the defendants violated the Securities Act in essentially the same manner alleged by the consolidated federal action: by allegedly making materially false and misleading statements and by allegedly omitting material information related to the Phase 2a clinical trial for AVA-101 and the prospects of AVA-101. The complaint seeks unspecified compensatory and rescissory damages, attorneys' fees and other costs. The plaintiff has dismissed the two institutional stockholder defendants.

On March 16, 2017, we reached an agreement to settle the asserted actions. The proposed aggregate amount of the settlement is $13 million, of which $1 million would be contributed by us to cover our indemnification obligations to the underwriters, and the remainder would be contributed by our insurers. The settlement is subject to definitive documentation, shareholder notice and court approval. We and the defendants have denied and continue to deny each and all of the claims alleged in the actions, and the settlement does not assign or reflect any admission of fault, wrongdoing or liability as to any defendant. If final court approval is not obtained with respect to the settlement or the settlement otherwise does not become effective and litigation resumes, adverse outcomes in the actions could result in substantial damages.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. Before deciding to invest in our common stock, you should carefully consider each of the risk factors described in "Part I - Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016, and our Quarterly Report on Form 10-Q for the period ended March 31, 2017. Those risks and the risks described in this Quarterly Report on Form 10-Q, including in the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations," could materially harm our business, financial condition, operating results, cash flow and prospects. If that occurs, the trading price of our common stock could decline, and you may lose all or part of your investment.

There have been no material changes to the Risk Factors described under "Part I - Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016, except as set forth in our Quarterly Report on Form 10-Q for the period ended March 31, 2017, filed with the Securities and Exchange Commission on May 9, 2017.

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

Unregistered Sales of Equity Securities

On September 29, 2017, in connection with an amendment to the license agreement between Adverum and the Lions Eye Institute (LEI), dated as of August 20, 2010, we became obligated to issue to LEI a warrant to purchase 40,000 shares of common stock with an exercise price of $3.65 per share as a result of the completion of the 36 month follow-up on the Phase 2a AVA-101 clinical study. This common stock warrant is exercisable immediately, and will expire on September 28, 2022. The warrant was issued to LEI in reliance on Section 4(a)(2) of the Securities Act and Regulation S promulgated thereunder, in that LEI is not a "U.S. Person" as defined in Regulation S, and is a sophisticated investor.

Use of Proceeds

On August 5, 2014, we closed our IPO and issued 6,900,000 shares of our common stock at an initial offering price of $17.00 per share. The offer and sale of all of the shares in the IPO were registered under the Securities Act pursuant to a registration statement on Form S-1, as amended (File Nos. 333-197133 and 333-197739), which was declared effective by the SEC on July 30, 2014. The joint book-running managers for the IPO were Jefferies LLC, Cowen and Company, LLC and Piper Jaffray & Co. The aggregate offering price to the public for the shares sold in the IPO was $117.3 million. We received net proceeds from the IPO of approximately $106.5 million, after deducting underwriting discounts and commissions of approximately $8.2 million and expenses of approximately $2.6

million payable by us. None of the expenses associated with the IPO were paid to directors, officers, persons owning 10% or more of any class of equity securities, or to their associates, or to our affiliates.

The remainder of the information required by this item regarding the use of our initial public offering proceeds has been omitted pursuant to SEC rules because such information has not changed since the date of our last periodic report.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

On October 6, 2017, our Board of Directors adopted the Adverum Biotechnologies, Inc. 2017 Inducement Plan (the "Inducement Plan") pursuant to which we reserved 600,000 shares for issuance pursuant to stock options and restricted stock units under the Inducement Plan. The only persons eligible to receive grants of stock options and restricted stock units under Inducement Plan are individuals who satisfy the standards for inducement grants under Nasdaq Marketplace Rule 5635(c)(4) and the related guidance under Nasdaq IM 5635-1 – that is, generally, a person not previously an employee or director of Adverum, or following a bona fide period of non-employment, as an inducement material to the individual's entering into employment with Adverum.

Effective November 6, 2017, the transfer agent of our common stock will change from Wells Fargo Shareowner Services to American Stock Transfer & Trust Company, LLC.

Item 6. Exhibits

EXHIBIT NUMBER	EXHIBIT DESCRIPTION	INCORPORATED BY REFERENCE				PROVIDED HEREWITH
		FORM	FILE NUMBER	DATE	EXHIBIT NUMBER	
2.1	Acquisition Agreement, dated as of January 29, 2016, by and among Avalanche Biotechnologies, Inc., Annapurna Therapeutics SAS, the Contributors identified therein, and Shareholder Representative Services LLC as the Contributors' Representative	8-K	001-36579	February 1, 2016	2.1	
2.2	Amendment No. 1 to the Acquisition Agreement, dated as of April 6, 2016	8-K	001-36579	April 7, 2016	2.1	
3.1	Amended and Restated Certificate of Incorporation	10-K	001-36579	March 9, 2017	3.1	
3.2	Amended and Restated Bylaws	8-K	001-36579	May 12 2016	3.2	
4.1	Reference is made to Exhibits 3.1 through 3.2.					
4.2	Form of Common Stock Certificate	S-1/A	333-197133	July 25, 2014	4.1	
10.1	Separation Agreement, dated September 1, 2017, between Samuel B. Barone, M.D., and Adverum Biotechnologies, Inc.	8-K	001-36579	September 1, 2017	10.1	
10.2	2017 Inducement Plan	S-8	333-220894	October 11, 2017	99.1	

10.3	Form of Stock Option Grant Notice and Option Agreement under the 2017 Inducement Plan	S-8	333-220894	October 11, 2017	99.2	
10.4	Form of Restricted Stock Award Grant Notice and Restricted Stock Award Agreement under the 2017 Inducement Plan	S-8	333-220894	October 11, 2017	99.3	
10.5	Sales Agreement, dated as of August 10, 2017, by and between the Registrant and Cowen and Company, LLC	S-3	333-219890	August 10, 2017	1.2	
12.1	Statement of Computation of Ratio of Earnings to Fixed Charges.					X
31.1	Certification of Principal Executive Officer, as required by Rule 13a-14(a) or Rule 15d-14(a).					X
31.2	Certification of Principal Financial Officer, as required by Rule 13a-14(a) or Rule 15d-14(a).					X
32.1*	Certification by the Principal Executive Officer and Chief Financial Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 36 of Title 18 of the United States Code (18 U.S.C. §1350).					X
101.INS	XBRL Instance Document.					X
101.SCH	XBRL Taxonomy Extension Schema Document.					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.					X

* The certification attached as Exhibit 32.1 that accompanies this Quarterly Report on Form 10-Q is not deemed filed with the SEC and is not to be incorporated by reference into any filing of Adverum Biotechnologies, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-Q, irrespective of any general incorporation language contained in such filing.

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.

Date: November 8, 2017

ADVERUM BIOTECHNOLOGIES, INC.

By: /s/ Amber Salzman

Amber Salzman
President and Chief Executive Officer
(*Duly Authorized Officer*)

By: /s/ Leone Patterson

Leone Patterson
Chief Financial Officer
(*Principal Financial and Accounting Officer*)

Exhibit 12.1

STATEMENT OF COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES

(Dollars in thousands)

	Nine Months Ended September 30, 2017	Year Ended December 31, 2016	2015	2014
Fixed charges:				
Interest expense on indebtedness	$ 20	$ 25	$ 14	$ 0
Interest expense on portion of rent expense representative of interest	$ 94	$ 122	$ 92	$ 18
Total fixed charges	$ 114	$ 147	$ 106	$ 18
Preferred stock deemed dividend	$ 0	$ 0	$ 0	$ 3,230
Total fixed charges and preferred dividend	$ 114	$ 147	$ 106	$ 3,248
Net loss	$ (41,358)	$ (114,522)	$ (47,453)	$ (25,404)
Fixed charges per above	$ 114	$ 147	$ 106	$ 18
Total earnings (loss)	$ (41,244)	$ (114,375)	$ (47,347)	$ (25,386)
Ratio of earnings to fixed charges	N/A	N/A	N/A	N/A
Deficiency of earnings available to cover fixed charges	$ (41,358)	$ (114,522)	$ (47,453)	$ (28,634)

Exhibit 31.1

CERTIFICATION OF THE PRINCIPAL EXECUTIVE OFFICER

PURSUANT TO

SECURITIES EXCHANGE ACT RULES 13A-14(A) AND 15D-14(A)

I, Amber Salzman, certify that:

1. I have reviewed this Form 10-Q of Adverum Biotechnologies, 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;

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2017

/s/ Amber Salzman
Amber Salzman
President and Chief Executive Officer

(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF THE PRINCIPAL FINANCIAL OFFICER

PURSUANT TO

SECURITIES EXCHANGE ACT RULES 13A-14(A) AND 15D-14(A)

I, Leone Patterson, certify that:

1. I have reviewed this Form 10-Q of Adverum Biotechnologies, 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;

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2017

/s/ Leone Patterson
Leone Patterson
Chief Financial Officer
(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 Adverum Biotechnologies, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended September 30, 2017, as filed with the Securities and Exchange Commission (the "Report"), Amber Salzman, President and Chief Executive Officer of the Company, and Leone Patterson, Senior Vice President and Chief Financial Officer of the Company, respectively, do each hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of their knowledge that:

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

Date: November 8, 2017

/s/ Amber Salzman
Amber Salzman
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Leone Patterson
Leone Patterson
Chief Financial Officer
(Principal Financial and Accounting Officer)

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Adverum Biotechnologies, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.