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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 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 001-33451

Albireo Pharma, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**90-0136863**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**
10 Post Office Square, Suite 502 South, Boston, MA	**02109**
(Address of principal executive offices)	**(Zip code)**

Registrant's telephone number, including area code: (857) 254-5555

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 the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☐ (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 November 1, 2017, the registrant had 8,899,451 shares of common stock, $0.01 par value per share, outstanding.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This quarterly report includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, which we refer to as the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act, that relate to future events or to our future operations or financial performance. Any forward-looking statement involves known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by such forward-looking statement. Forward-looking statements include statements, other than statements of historical fact, about, among other things:

- the progress, scope, cost, duration or results of our development activities, nonclinical studies and clinical trials of A4250, elobixibat, A3384 or any of our other product candidates or programs, such as the target indication(s) for development or approval, the size, design, population, conduct, cost, objective or endpoints of any clinical trial, or the timing for initiation or completion of or availability of results from any clinical trial (including our planned Phase 3 clinical trial of A4250 in patients with progressive familial intrahepatic cholestasis, or PFIC), for submission or approval of any regulatory filing (including for approval of a new drug application in Japan for elobixibat), or for meeting with regulatory authorities;
- the potential benefits that may be derived from any of our product candidates;
- the timing of and our ability to obtain and maintain regulatory approval of our existing product candidates, any product candidates that we may develop, and any related restrictions, limitations, or warnings in the label of any approved product candidates;
- any payment that EA Pharma Co., Ltd. (EA Pharma) may make to us or any other action or decision that EA Pharma may make concerning elobixibat or our business relationship;
- our future operations, financial position, revenues, costs, expenses, uses of cash, capital requirements, our need for additional financing or the period for which our existing cash resources will be sufficient to meet our operating requirements; and
- our strategies, prospects, plans, expectations or objectives.

Words such as, but not limited to, “believe,” “expect,” “anticipate,” “estimate,” “forecast,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “targets,” “likely,” “will,” “would,” “could,” “should,” “continue,” “scheduled” and similar expressions or phrases, or the negative of those expressions or phrases, are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that these statements are based on our estimates or projections of the future that are subject to known and unknown risks and uncertainties and other important factors that may cause our actual results, level of activity, performance or achievements expressed or implied by any forward-looking statement to differ. These risks, uncertainties and other factors include, among other things, our critical accounting policies and:

- the design, size, duration and endpoints for, and results from, our planned Phase 3 clinical trials of A4250 in patients with PFIC, or that will be required to obtain marketing approval for A4250 to treat patients with PFIC or any other pediatric cholestatic liver disease or for A3384 to treat bile acid malabsorption, or BAM;
- whether favorable findings from clinical trials of A4250 to date, including findings in indications other than PFIC, will be predictive of results from future clinical trials, including the trials comprising our planned Phase 3 PFIC program for A4250;
- whether either or both of the U.S. Food and Drug Administration, or FDA, and European Medicines Agency, or EMA, will determine that the primary endpoint and duration of the planned double blind Phase 3 trial in patients with PFIC is sufficient, even if such primary endpoint is met with statistical significance, to support approval of A4250 in the United States or the European Union, to treat PFIC, a symptom of PFIC or otherwise;
- the outcome and interpretation by regulatory authorities of the ongoing third-party study pooling and analyzing long-term PFIC patient data;
- the timing for initiation or completion of, or for availability of data from, the trials comprising the planned Phase 3 PFIC program for A4250, and the outcomes of such trials;
- whether changes made in the process of finalizing the protocol for the planned double blind Phase 3 trial of A4250 in patients with PFIC result in a delay in its initiation;
- delays or other challenges in the recruitment of patients for the planned double blind Phase 3 trial of A4250;

- whether our current cash resources will be sufficient to fund our planned Phase 3 clinical program for A4250 in patients with PFIC to completion;
- whether A4250 will meet the criteria to receive a pediatric priority review voucher from the FDA when applicable, and, if necessary, whether the pediatric priority review voucher program will be renewed beyond 2020;
- the competitive environment and commercial opportunity for a potential treatment for PFIC and other orphan pediatric cholestatic liver diseases;
- the conduct and results of clinical trials and nonclinical studies and assessments of A4250, elobixibat, A3384 or any of our other product candidates and programs, including the performance of third parties engaged to execute them and difficulties or delays in patient enrollment and data analysis;
- the medical benefit that may be derived from A4250, elobixibat, A3384 or any of our other product candidates;
- the extent to which our agreement with EA Pharma for elobixibat generates nondilutive income for us;
- the timing and success of submission, acceptance and approval of regulatory filings, including in particular the new drug application submitted by EA Pharma in Japan for elobixibat for the treatment of chronic constipation, and any related restrictions, limitations or warnings in the label of any approved product candidates;
- the significant control or influence that EA Pharma has over the development and commercialization of elobixibat in Japan and its other licensed territories;
- whether we elect to seek and, if so, our ability to establish a license or other partnering transaction with a third party for elobixibat in the United States or Europe;
- whether findings from nonclinical studies and clinical trials of IBAT inhibitors will be predictive of future clinical success for a product candidate of ours in the treatment of nonalcoholic steatohepatitis, or NASH;
- the accuracy of our estimates regarding expenses, costs, future revenues, uses of cash and capital requirements;
- our ability to obtain additional financing on reasonable terms, or at all;
- our ability to establish additional licensing, collaboration or similar arrangements on favorable terms and our ability to attract collaborators with development, regulatory and commercialization expertise;
- the success of competing third-party products or product candidates;
- our ability to successfully commercialize any approved product candidates, including their rate and degree of market acceptance;
- our ability to expand and protect our intellectual property estate;
- regulatory developments in the United States and other countries;
- the performance of our third-party suppliers, manufacturers and contract research organizations and our ability to obtain alternative sources of raw materials; and
- our ability to attract and retain key personnel.

These and other risks and uncertainties are described in greater detail under the caption “Risk Factors” in Item 1A of Part I of our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, in Exhibit 99.3 to our Current Report on Form 8-K filed May 23, 2017 and in other filings that we make with the Securities and Exchange Commission, or SEC. As a result of the risks and uncertainties, the results or events indicated by the forward-looking statements may not occur. We caution you not to place undue reliance on any forward-looking statement.

In addition, any forward-looking statement in this quarterly report represents our views only as of the date of this quarterly report and should not be relied upon as representing our views as of any subsequent date. We anticipate that subsequent events and developments may cause our views to change. Although we may elect to update these forward-looking statements publicly at some point in the future, we specifically disclaim any obligation to do so, except as required by applicable law. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

Albireo Pharma, Inc.

Condensed Consolidated Balance Sheets

(in thousands, except share and per share data)

(unaudited)

	September 30, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$ 57,073	$ 29,931
Trade receivables	11	26
Prepaid expenses and other assets	326	560
Other receivables	730	344
Total current assets	58,140	30,861
Property and equipment, net	190	21
Intangible assets	1,000	150
Goodwill	17,260	18,110
Other noncurrent assets	503	518
Total assets	$ 77,093	$ 49,660
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Trade payables	$ 1,577	$ 972
Accrued expenses	4,568	7,548
Long-term debt, current portion	1,470	3,075
Warrant liability	—	844
Other liabilities	315	269
Total current liabilities	7,930	12,708
Long-term liabilities	43	—
Total liabilities	7,973	12,708
Stockholders' Equity:		
Common stock, $0.01 par value per share — 30,000,000 authorized at September 30, 2017 and 200,000,000 authorized at December 31, 2016; 8,882,785 and 6,292,644 issued and outstanding at September 30, 2017 and December 31, 2016, respectively	91	63
Additional paid in capital	113,515	61,338
Accumulated other comprehensive income	817	1,496
Accumulated deficit	(45,303)	(25,945)
Total stockholders' equity	69,120	36,952
Total liabilities and stockholders' equity	$ 77,093	$ 49,660

See accompanying notes to Condensed Consolidated Financial Statements.

Albireo Pharma, Inc.

Condensed Consolidated Statements of Operations

(in thousands, except share and per share data)

(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Revenue	$ —	$ 28	$ 2	$ 8,125
Operating expenses:				
Research and development	3,226	2,062	9,000	6,372
General and administrative	3,709	1,346	10,634	5,680
Other (income) expense, net	(401)	58	(392)	193
Total operating expenses	6,534	3,466	19,242	12,245
Operating loss	(6,534)	(3,438)	(19,240)	(4,120)
Interest income (expense), net	23	(508)	(378)	(1,546)
Non-operating income (expense), net	—	(84)	260	536
Net loss before income taxes	(6,511)	(4,030)	(19,358)	(5,130)
Income tax	—	—	—	—
Net loss	$ (6,511)	$ (4,030)	$ (19,358)	$ (5,130)
Net loss per share - basic	$ (0.73)	$ (13.32)	$ (2.60)	$ (17.96)
Net loss per share - diluted	$ (0.73)	$ (13.32)	$ (2.60)	$ (17.96)
Weighted average shares outstanding - basic	8,878,430	302,584	7,452,709	285,668
Weighted average shares outstanding - diluted	8,878,430	302,584	7,452,709	285,668

See accompanying notes to Condensed Consolidated Financial Statements.

Albireo Pharma, Inc.

Condensed Consolidated Statements of Comprehensive Loss

(in thousands)

(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Net loss	$ (6,511)	$ (4,030)	$ (19,358)	$ (5,130)
Other comprehensive loss:				
Foreign currency translation adjustment	(589)	(66)	(679)	(29)
Total other comprehensive loss	(589)	(66)	(679)	(29)
Total comprehensive income loss	$ (7,100)	$ (4,096)	$ (20,037)	$ (5,159)

See accompanying notes to Condensed Consolidated Financial Statements.

Albireo Pharma, Inc.

Condensed Consolidated Statements of Cash Flows

(in thousands)

(unaudited)

	Nine Months Ended September 30,	
	2017	**2016**
Cash flows from operating activities:		
Net loss	$ (19,358)	$ (5,130)
Adjustments to reconcile net loss to net cash used in operating activities:		
Accretion of debt discount and amortization of issuance costs	387	844
Depreciation and amortization	23	11
Change in fair value of financial instruments	(251)	(536)
Stock-based compensation expense	2,861	194
Noncash gain on foreign currency translation	(593)	—
Changes in operating assets and liabilities:		
Trade receivables	17	1,264
Prepaid expenses and other current assets	242	299
Other receivables	(338)	7
Other noncurrent assets	15	—
Trade payables	465	(870)
Taxes payable	—	—
Accrued expenses	(3,244)	1,608
Other liabilities and long-term liabilities	110	(15)
Other noncurrent liabilities	43	—
Net cash used in operating activities	(19,621)	(2,324)
Cash flows from investing activities:		
Purchase of property, plant and equipment	(187)	(3)
Net cash used in investing activities	(187)	(3)
Cash flows from financing activities:		
Proceeds from issuance of Ordinary A shares	—	40
Proceeds from issuance of warrants, net of issuance costs	—	39
Proceeds from issuance of common stock, net of issuance costs	48,500	—
Exercise of stock options	226	
Payments of principal on borrowings	(2,159)	(1,427)
Net cash provided by (used in) financing activities	46,567	(1,348)
Effect of exchange rate changes on cash and cash equivalents	383	270
Net increase in cash and cash equivalents	27,142	(3,405)
Cash and cash equivalents—beginning of period	29,931	5,120
Cash and cash equivalents—end of period	$ 57,073	$ 1,715
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 160	$ 454
Shares issued upon cashless exercise of Kreos warrants	617	—

See accompanying notes to Condensed Consolidated Financial Statements.

1. Summary of significant accounting policies and basis of presentation

Organization and Share Exchange

Albireo Pharma, Inc. (Parent), together with its direct and indirect subsidiaries (the Company), is a clinical-stage biopharmaceutical company focused on the development and commercialization of novel bile acid modulators to treat orphan pediatric liver diseases and other liver and gastrointestinal diseases and disorders. The Company's clinical pipeline includes one Phase 3 product candidate, one Phase 2 product candidate and a third product candidate for which an application for regulatory approval has been filed in Japan. A4250, the Company's lead product candidate, is in development initially for the treatment of patients with progressive familial intrahepatic cholestasis (PFIC), a rare, life-threatening genetic disorder affecting young children.

Prior to November 3, 2016, Parent's name was Biodel Inc. (Biodel). On that date, Biodel effected a 1-for-30 reverse stock split of its common stock (Reverse Stock Split) and completed a share exchange transaction with Albireo Limited, a limited company domiciled in London, United Kingdom, in accordance with the terms of an Amended and Restated Share Exchange Agreement, dated as of July 13, 2016, by and among Biodel, Albireo Limited and the shareholders and noteholders of Albireo Limited (the Share Exchange Agreement). Pursuant to the Share Exchange Agreement, each holder of shares or notes convertible into shares of Albireo Limited received newly issued shares of Biodel common stock and Albireo Limited became a wholly owned subsidiary of Biodel (the Transaction). Following completion of the Transaction, the business of Albireo Limited became the business of Parent and Parent changed its name to Albireo Pharma, Inc.

For accounting purposes, the Transaction was treated as a "reverse acquisition" and Albireo Limited was considered the accounting acquirer. Accordingly, with respect to periods prior to completion of the Transaction, the accompanying Condensed Consolidated Financial Statements reflect the historical results of Albireo Limited and its direct and indirect subsidiaries and do not include the historical results of Biodel prior to completion of the Transaction. All share and per share information for periods prior to completion of the Transaction has been retroactively adjusted to reflect the exchange of shares in the Transaction based on an exchange ratio of 0.06999 and, where applicable, the Reverse Stock Split.

Basis of presentation

The accompanying unaudited Condensed Consolidated Financial Statements have been prepared in accordance with U.S. generally accepted accounting principles (GAAP) for interim financial information, the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements and should be read in conjunction with the audited consolidated financial statements and accompanying notes included in Parent's Annual Report on Form 10-K for the fiscal year ended December 31, 2016. In the opinion of management, all adjustments (including normal recurring accruals) considered necessary for fair presentation have been included in the Condensed Consolidated Financial Statements. The results of operations for the three and nine months ended September 30, 2017 are not necessarily indicative of the results that may be expected for the full fiscal year, any other interim period or any future fiscal year.

Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification (ASC) and Accounting Standards Update (ASU) of the Financial Accounting Standards Board (FASB). Any reference in these Condensed Consolidated Financial Statements to common stock or options or warrants to purchase shares of common stock of the Company means the common stock or options or warrants to purchase shares of common stock of Parent. Any reference in these Condensed Consolidated Financial Statements to common stock means, for periods prior to November 3, 2016, Ordinary shares of Albireo Limited.

The Company has reclassified certain amounts in the Condensed Consolidated Balance Sheet as of December 31, 2016 from Advances from licensees and from Warrant liability to Other liabilities to conform to the current year presentation.

Error correction

In fiscal 2016, the Company under recognized stock-based compensation expense, a noncash item, by $788,000. The understatement of stock-based compensation expense was attributable to the use of an incorrect service period, and related period of expense recognition, for certain stock option awards. The Company recorded the prior period understatement in the second quarter. The Company determined that the error and subsequent correction are not material to its financial statements for any prior period and does not expect the correction to be material to its financial statements for the year ending December 31, 2017.

Principles of consolidation

The accompanying Condensed Consolidated Financial Statements include the accounts of Parent and its direct or indirect wholly owned subsidiaries, Albireo Limited, Albireo AB, Elobix AB, Albireo, Inc. and, for periods following completion of the Transaction, Biodel UK Limited. All intercompany balances and transactions have been eliminated in consolidation.

Foreign currency translation

Functional and presentation currency

Items included in the financial statements of each entity comprising the Company are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The functional currency for Parent and Albireo, Inc. is the U.S. Dollar (USD), the functional currency for Albireo Limited, Elobix AB and Biodel UK Limited is the Euro, and the functional currency for Albireo AB is the Swedish Krona (SEK). The Company consolidates its financial statements in USD.

Transactions and balances

Foreign currency transactions in each entity comprising the Company are remeasured into the functional currency of the entity using the exchange rates prevailing at the respective transaction dates. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at period-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized within Other (income) expense, net in the Condensed Consolidated Statements of Operations.

The results and financial position of the Company and its subsidiaries that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

a. assets and liabilities presented are translated at the closing exchange rate as of September 30, 2017 and December 31, 2016;

b. income and expenses for each statement of comprehensive income (loss) are translated at the average exchange rate for the applicable period;

c. significant transactions use the closing exchange rate on the date of the transaction; and

d. all resulting exchange differences arising from such translation are recognized directly in other comprehensive income (loss) and presented as a separate component of equity.

Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts of assets, liabilities, revenues and expenses reported in the financial statements and accompanying notes. Management must apply significant judgment in this process. On an ongoing basis, the Company evaluates its estimates and assumptions, including but not limited to accruals, deferred tax assets and warrant liability estimated at fair value. Actual results could materially differ from these estimates.

Research and development expenses

Research and development costs are expensed as incurred and include primarily salaries, benefits and other staff-related costs; clinical trial and related clinical manufacturing costs; contract services and other outside costs.

The Company's nonclinical studies and clinical trials are performed by third-party contract research organizations (CROs). Some of these expenses are billed monthly for services performed, while others are billed based upon milestones achieved. For nonclinical studies, the significant factors used in estimating accruals include the percentage of work completed to date and contract milestones achieved. For clinical trial expenses, the significant factors used in estimating accruals include the number of patients enrolled and percentage of work completed to date or contract milestones achieved. The Company's estimates are highly dependent upon the timeliness and accuracy of the data provided by the respective CROs regarding the status of the contracted activity, with adjustments made when deemed necessary.

Revenue recognition

Revenue is generated from the receipt of upfront or license fees, milestone payments and payments for pharmaceutical ingredient or related procurement services that are made pursuant to out-licensing or related supply agreements.

Where an out-licensing arrangement of the Company involves the provision of multiple elements that may contain different remuneration arrangements such as upfront payments, milestone payments or product sales, the arrangement is assessed to determine whether separate delivery of the individual elements of such arrangement comprises more than one unit of accounting. The delivered elements are separated if (a) they have value to the licensee on a stand-alone basis, (b) there is objective and reliable evidence of the fair value of the undelivered element(s) and (c) if the arrangement includes a general right of return relative to the delivered element(s), delivery or performance of the undelivered element(s) is considered probable and is substantially in the control of the Company. Allocation of revenue to the different elements that require separate accounting is based on the separate selling prices determined for each component, and total consideration is then allocated pro rata across the components of the arrangement. If separate selling prices are not available, the Company will use its best estimate of such selling prices, consistent with the overall pricing strategy and relevant market factors.

The Company has determined that each element of its out-licensing agreements is a separate and distinct unit of accounting, and, as such, the fair value of each element has been subscribed and recognized as follows:

- Nonrefundable upfront payments received from the Company's out-licensing agreements relating to technical expertise and intellectual property are recognized in income if all rights relating to the intellectual property and all obligations resulting from them have been relinquished under the contract terms and the Company has no continuing material obligation to perform under the agreement. However, if rights to the intellectual property continue to exist or obligations resulting from them have yet to be fulfilled, the payments received would be deferred until all rights and obligations have been fulfilled.
- Nonrefundable payments that are linked to the achievement of significant and substantive development or regulatory milestones in the research and development process are recognized as revenue upon the achievement of the specified milestone.
- Revenue and costs associated with procurement services associated with pharmaceutical ingredients are recognized net in revenue when title and risk of loss of the pharmaceutical ingredients have passed to the licensee as the Company is not the primary obligor, and revenue and costs associated with related procurement services are recognized net in revenue when the Company is contractually bound.

As of September 30, 2017, the Company had a license agreement with EA Pharma Co., Ltd. (EA Pharma, formerly Ajinomoto Pharmaceuticals Co., Ltd.), entered into in 2012, to develop a select product candidate (elobixibat) for registration and subsequent commercialization in select markets. The Company satisfied its material performance obligations under the agreement in 2012, upon the delivery of technical expertise and intellectual property rights to EA Pharma.

Payments resulting from pharmaceutical ingredient or related procurement services are recognized as revenue as the activities are performed and are presented on a net basis. Revenue is recorded on a net basis because the Company acts as an agent, as it does not have discretion to change suppliers and does not perform any part of the services or manufacture of the subject pharmaceutical ingredients. The costs associated with these activities are netted against the related revenue in the Condensed Consolidated Statements of Operations.

For certain contingent payments under research and development arrangements, the Company recognizes revenue using the milestone method. Under the milestone method, a payment that is contingent upon the achievement of a substantive milestone is recognized in its entirety in the period in which the milestone is achieved. A milestone is an event: (i) that can be achieved based in whole or in part on either the Company's performance or on the occurrence of a specific outcome resulting from the Company's performance, (ii) for which there is substantive uncertainty at the date the arrangement is entered into that the event will be achieved and (iii) that would result in additional payments being due to the Company. The determination that a milestone is substantive requires estimation and judgment and is made at the inception of the arrangement. Milestones are considered substantive when the consideration earned from the achievement of the milestone is: (A) commensurate with either the Company's performance to achieve the milestone or the enhancement of value of the item delivered as a result of a specific outcome resulting from the Company's performance to achieve the milestone, (B) related solely to past performance and (C) reasonable relative to all deliverables and payment terms in the arrangement. In making the determination as to whether a milestone is substantive or not, management of the Company considers all facts and circumstances relevant to the arrangement, including factors such as the scientific, regulatory, commercial and other risks that must be overcome to achieve the milestone, the level of effort and investment required to achieve the milestone and whether any portion of the milestone consideration is related to future performance or deliverables. The Company has evaluated each milestone specified under its license agreement with EA Pharma and determined the milestone to be substantive.

Under the terms of the license agreement with EA Pharma, the Company was eligible as of September 30, 2017 to receive up to approximately (a) €13.3 million ($15.7 million based on the Euro to USD exchange rate as of September 30, 2017) if specified regulatory events are achieved for elobixibat in Japan and (b) ¥3.5 billion ($31.2 million based on the Japanese Yen to USD exchange rate as of September 30, 2017) if specified sales milestones are achieved for elobixibat in EA Pharma's licensed territory following

regulatory approval in any country in EA Pharma's licensed territory. The likelihood that the Company will achieve any particular milestone event with respect to elobixibat in any particular period, or at all, is uncertain, and the Company may not earn any future milestone payment with respect to elobixibat in any particular period, or ever. In addition, the Company is eligible to receive stepped royalties beginning in the high single digits on any future elobixibat product sales. The Company will recognize royalty revenue in the period of sale of elobixibat, based on the underlying contract terms, provided that the reported sales are reliably measurable and the Company has no remaining performance obligations, assuming all other revenue recognition criteria are met.

Loss contingencies

Loss contingencies are recorded as liabilities when it is probable that a liability has occurred and the amount of loss is reasonably estimable. Disclosure is required when there is a reasonable possibility that an ultimate loss will be material. Contingent liabilities are often resolved over long periods of time. Estimating probable losses requires analysis that often depends on judgments about potential actions by third parties, such as regulators.

Business Combination Adjustment

At the time of the Transaction in November 2016, the Company preliminarily estimated the fair value of Biodel's in-process research and development (IPR&D) to be $150,000. Subsequently, the Company continued to evaluate the IPR&D acquired, including the underlying patents, based on information available to the Company as of November 2016. Upon a final evaluation of the IPR&D in 2017, the Company increased the acquisition date value of the IPR&D by $850,000 to $1.0 million. A deferred tax liability related to this step-up basis difference of $300,000 was recorded, with the remainder of the increase, $550,000, being recorded as a reduction of goodwill.

Recently adopted accounting pronouncements

In March 2016, the FASB issued ASU No. 2016-09, "*Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*," which changes the accounting for stock-based payment transactions, including income tax consequences, classification of awards as either equity or liabilities, and classification in the statement of cash flows. The new standard is effective for fiscal years beginning after December 15, 2016 and for interim periods therein. The Company adopted this standard on a prospective basis as of January 1, 2017, which had no impact on the net deferred tax balances, the consolidated statement of cash flows or otherwise on the Company's consolidated financial statements.

Accounting pronouncements issued but not yet adopted

In May 2014, the FASB issued ASU No. 2014-09, "*Revenue from Contracts with Customers: (Topic 606)*." This ASU affects any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of nonfinancial assets unless those contracts are within the scope of other standards (e.g., insurance contracts or lease contracts). This ASU will supersede the revenue recognition requirements in ASC Topic 605, "*Revenue Recognition*," and most industry-specific guidance. In addition, the existing requirements for the recognition of a gain or loss on the transfer of nonfinancial assets that are not in a contract with a customer (e.g., assets within the scope of ASC Topic 360, "*Property, Plant, and Equipment*," and intangible assets within the scope of ASC Topic 350, "*Intangibles-Goodwill and Other*") are amended to be consistent with the guidance on recognition and measurement (including the constraint on revenue) in this ASU. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised 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. In July 2015, the FASB deferred the effective date of ASU 2014-09. This ASU will be effective for the Company on January 1, 2018 (for the Company's 2018 fiscal year). The Company plans to adopt this standard effective January 1, 2018 using the modified retrospective approach, whereby the cumulative effect of applying the standard would be recognized at the date of initial application within retained earnings. The Company currently has one contract that generates revenue and will be impacted by the adoption of the new guidance. The Company is currently evaluating the impact this ASU will have on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, "*Leases (Topic 842)*." The new standard establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The Company is currently evaluating the impact this ASU will have on its consolidated financial statements and currently does not plan to early adopt this standard.

In September 2016, the FASB issued ASU 2016-15, "*Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force)*," which changes how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The new standard is effective for fiscal years beginning after December 15, 2017 and for interim periods therein, with early adoption permitted. The Company is currently evaluating the impact this ASU will have on its consolidated financial statements.

2. Fair value of financial instruments

In measuring fair value, the Company evaluates valuation techniques such as the market approach, the income approach and the cost approach. A three-level valuation hierarchy, which prioritizes the inputs to valuation techniques that are used to measure fair value, is based upon whether such inputs are observable or unobservable.

Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions made by the reporting entity. The three-level hierarchy for the inputs to valuation techniques is briefly summarized as follows:

Level 1—Observable inputs such as quoted prices (unadjusted) for *identical* instruments in active markets;

Level 2—Observable inputs such as quoted prices for *similar* instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, or model-derived valuations whose significant inputs are observable for substantially the full term of the assets or liabilities; and

Level 3—Unobservable inputs that reflect the reporting entity's estimate of assumptions that market participants would use in pricing the asset or liability.

The following tables present the fair values for the Company's financial instruments as well as the input levels used to determine these fair values as of September 30, 2017 and December 31, 2016. The Company values its current assets, which include trade and other receivables, and liabilities, which include trade payables, at historical cost, which approximates fair value. The estimated fair value of the Loan Facility (see Note 7) was $1.4 million as of September 30, 2017. The Company used the income approach to value the Loan Facility.

		Total Carrying Value on the Condensed Consolidated Balance Sheet		Fair Value Measurements	
	Fair Value Level	September 30, 2017	December 31, 2016	September 30, 2017	December 31, 2016
		(in thousands)			
Financial Instruments Recorded at Fair Value on a Recurring Basis					
Current liabilities:					
Warrant liability	3	$ —	$ 844	$ —	$ 844

On December 17, 2014, the Company (in particular, Albireo Limited) executed a convertible loan instrument, which provided 1,251,000 €1.00 ($1.12) unsecured convertible loan notes (2014 Convertible Loans), denominated in Euros, and was subsequently amended on October 1, 2015. On October 1, 2015, the Company executed a convertible loan instrument which provided 5,000,000 $1.00 unsecured convertible loan notes (2015 Convertible Loans), denominated in USD. The valuation methods used to value the 2014 Convertible Loans, the 2015 Convertible Loans and their respective associated derivative liabilities were the income approach and the Monte Carlo simulation analysis. The fair value of the 2014 Convertible Loans increased by $229,000 and $246,000 for the three and nine months ended September 30, 2016, respectively. The fair value of the 2015 Convertible Loans increased by $273,000 and $400,000 for the three and nine months ended September 30, 2016, respectively. These adjustments to the fair values of the 2014 Convertible Loans and 2015 Convertible Loans are recorded in Non-operating income (expense), net. Immediately prior to completion of the Transaction on November 3, 2016, the conversion rights for the 2014 Convertible Loans and the 2015 Convertible Loans were exercised.

There were no transfers from one Level to another Level during the periods reported.

Warrants

In connection with the Loan Facility, the Company issued to Kreos Capital IV (Expert Fund) Limited (Kreos Capital) detachable warrants with a right to acquire shares at €720,000 (the Warrants). The Company recognized the Warrants at fair value at the time of execution of the Loan Facility and remeasured their fair value on a recurring basis thereafter. In connection with the Transaction, the Warrants were replaced with warrants to purchase 67,271 shares of the Company's common stock at an exercise price of $11.78 per share (the Replacement Kreos Warrants). The exchange was accounted for as a modification whereby the fair value of

the Replacement Kreos Warrants was compared to the fair value of the Warrants immediately before the terms were modified, measured based on the market price of the common stock of the Company and other pertinent factors on the date of the modification.

On May 10, 2017, Kreos Capital notified the Company of its intent to exercise the Replacement Kreos Warrants on a "cashless" basis. In conjunction with the exercise, the Company remeasured the fair value of the Replacement Kreos Warrants to be $618,000 immediately prior to the exercise. The number of shares of the Company's common stock issued in the cashless exercise, 29,831 shares, was determined by a formula specified in the warrant document. The existing liability of the fair value at date of exercise was reclassified to Additional paid in capital.

The fair value of the Replacement Kreos Warrants decreased by $226,000 for the period during the nine months ended September 30, 2017 prior to their exercise. The fair value of the Warrants increased by $76,000 and decreased by $689,000 for the three and nine months ended September 30, 2016, respectively.

See Note 7 for a further description of the Loan Facility, Warrants and Replacement Kreos Warrants.

3. Commitments and contingencies

Operating lease commitments

Parent is a party to an Office Lease Agreement with SHIGO 10 PO Owner LLC for approximately 5,116 rentable square feet in the building located at 10 Post Office Square, Boston, Massachusetts, which serves as Parent's executive offices. The initial term of the lease is 62 months beginning on March 1, 2017. Parent has the option to extend the lease one time for an additional 5-year period. Following an initial two-month rent abatement period, Parent is obligated to make monthly rent payments in an amount beginning at $20,997 and escalating by approximately 2% annually for the term of the lease. In addition, Parent is responsible under the lease for specified costs and charges, including certain operating expenses, utilities, taxes and insurance.

Albireo AB is a party to a 36-month building lease for approximately 5,113 square feet of office space in Gothenburg, Sweden. The current quarterly payment under the lease is SEK 318,197 ($36,932 based on the SEK to USD exchange rate as of September 30, 2017) and subject to change based on applicable taxes and otherwise to increase based on changes in the Swedish Consumer Price Index (CPI). The current term of the lease expires in November 2019, but renews automatically thereafter for consecutive three-year terms unless notice of nonrenewal is given by either party at least nine months prior to the end of the then-current term, subject to Albireo AB's right to terminate the lease at any time upon six months' notice.

As of September 30, 2017, future minimum commitments under facility operating leases were $1,280,000.

Rent expense recognized under the Company's operating leases was $283,000 and $81,000 for the nine months ended September 30, 2017 and 2016, respectively.

Agreements with CROs

As of September 30, 2017, the Company had various agreements with CROs for the conduct of specified research and development activities. Based on the terms of the respective agreements, the Company may be required to make future payments of up to $6.4 million to CROs upon the completion of contracted work.

Other Commitments

In connection with the spin-off of Albireo Limited from AstraZeneca in 2008 and associated transfer agreements, the Company became party to an assignment agreement between AstraZeneca and a named inventor on a patent related to elobixibat. In connection with this agreement, upon the initial launch of a pharmaceutical product that constitutes an IBAT inhibitor in specified countries, the inventor is entitled to a one-time "launch fee" payment of SEK 4.0 million ($492,000, based on the SEK to USD exchange rate as of September 30, 2017).

4. Net loss per share

Each of basic net loss per share, or Basic EPS, and diluted net loss per share, or Diluted EPS, is calculated by dividing the net loss by the weighted average number of shares of common stock outstanding. If the Company were in a net income position, basic net income per share would be calculated by dividing the net income by the weighted-average number of shares of common stock plus dilutive common stock equivalents outstanding.

The following table sets forth the computation of Basic EPS and Diluted EPS (in thousands, except for share and per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Basic EPS:				
Numerator				
Net loss	$ (6,511)	$ (4,030)	$ (19,358)	$ (5,130)
Net loss	$ (6,511)	$ (4,030)	$ (19,358)	$ (5,130)
Denominator				
Weighted average number of shares	8,878,430	302,584	7,452,709	285,668
Number of shares used for Basic EPS computation	8,878,430	302,584	7,452,709	285,668
Basic EPS	$ (0.73)	$ (13.32)	$ (2.60)	$ (17.96)
Diluted EPS:				
Numerator				
Net loss	$ (6,511)	$ (4,030)	$ (19,358)	$ (5,130)
Net loss	$ (6,511)	$ (4,030)	$ (19,358)	$ (5,130)
Denominator				
Weighted average number of shares	8,878,430	302,584	7,452,709	285,668
Number of shares used for Diluted EPS computation	8,878,430	302,584	7,452,709	285,668
Diluted EPS	$ (0.73)	$ (13.32)	$ (2.60)	$ (17.96)

As described in Note 1, “Organization and Share Exchange,” the share and per share information as of and for the period ended September 30, 2016 has been retroactively adjusted to reflect the exchange of shares in the Transaction based on an exchange ratio of 0.06999 and does not include the historical results of Biodel.

The following outstanding common stock equivalents were excluded from the computation of Diluted EPS for the three and nine months ended September 30, 2017 and 2016 because including them would have been anti-dilutive:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2017	2016	2017	2016
Convertible preference shares (on an as-converted basis)	—	2,754,386	—	2,754,386
Warrants to purchase ordinary A shares (on an as-converted basis)	—	99,131	—	53,933
Options to purchase common stock	748,390	207,822	748,390	98,406

5. Income taxes

The Company did not record a tax provision or benefit for either the three or nine months ended September 30, 2017 or September 30, 2016. The Company has continued to maintain a full valuation allowance against its net deferred tax assets. The Company has had an overall net operating loss position since its inception. The Company had approximately $53.3 million in valuation allowances recorded against its deferred tax assets as of both September 30, 2017 and December 31, 2016.

6. Stock-based Compensation

On November 3, 2016, the Albireo Pharma, Inc. 2016 Equity Incentive Plan (the 2016 Equity Plan) was approved by the Company’s stockholders. The 2016 Equity Plan replaced Biodel’s 2010 Stock Incentive Plan, as amended (the 2010 Plan), in connection with completion of the Transaction. The 2016 Equity Plan authorized the issuance of up to 635,000 shares, plus up to 249,059 shares issued if awards outstanding under the 2010 Plan were cancelled, forfeited or expired on or after the Transaction. All stock options outstanding under the 2010 Plan remain in full force and effect pursuant to their terms and the terms of the 2010 Plan. The 2016 Equity Plan is structured to comply with the requirements imposed by Section 162(m) of the Internal Revenue Code of 1986, as amended, and related regulations.

On September 13, 2017, the Parent's Board of Directors adopted the Albireo Pharma, Inc. 2017 Inducement Equity Incentive Plan (the 2017 Inducement Plan) without stockholder approval pursuant to Rule 5635(c)(4) of the Nasdaq Listing Rules. Pursuant to the 2017 Inducement Plan, Parent may grant stock options, stock awards and other stock-based awards for up to a total of 150,000 shares of common stock to new employees of the Company. As of September 30, 2017, no stock options, stock awards or other stock-based awards have been made under the 2017 Inducement Plan.

Prior to completion of the Transaction, Albireo Limited adopted a share option plan on March 18, 2016, providing for the grant of share options to employees, consultants, officers and directors of Albireo Limited or its subsidiaries (the Pre-Transaction Plan). The Pre-Transaction Plan was amended by Albireo Limited on April 18, 2016. Pursuant to the terms of the Pre-Transaction Plan and prior to completion of the Transaction, Albireo Limited issued or granted options to purchase 246,666 Ordinary A shares. These options were classified as a liability on the basis that they were granted in a currency other than the functional currency of the employing entity of the recipients and were subject to revaluation until exercised or forfeited. The options were replaced with options to purchase shares of the Company's common stock in conjunction with the Transaction. The replacement was accounted for as a modification whereby the fair value of the replacement awards was compared to the fair value of the original award immediately before the terms were modified, measured based on the market price of the common stock of Biodel and other pertinent factors on the date of the modification. The options were then classified as equity awards with the liability reclassified to Additional paid in capital.

The Company's employment agreements with certain of its executives provide that, upon a change of control as defined, all of the then outstanding unvested options and any other rights to purchase Company shares will become fully vested and exercisable and any vesting-like restrictions will lapse in full, unless earlier vesting is provided for in the applicable program under which such option or other right to purchase Company shares was granted or under applicable law. The Transaction was not a change of control under the employment agreements.

The Company recognized stock-based compensation expense for employees of $810,000 and $139,000 for the three months ended September 30, 2017 and 2016, respectively, and $2,861,000 and $194,000 for the nine months ended September 30, 2017 and 2016, respectively.

A summary of the outstanding stock options as of September 30, 2017 is as follows:

	Stock Options Outstanding			
	Number of Shares	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding—December 31, 2016	694,869	$ 26.71	7.35	$ 6,435
Granted	411,650	$ 21.01	—	$ —
Expirations	(48,888)	$ 174.83	—	$ —
Exercises	(30,310)	$ 7.40	—	$ —
Outstanding—September 30, 2017	1,027,321	$ 17.81	8.71	$ 7,923
Exercisable—September 30, 2017	331,832	$ 19.43	7.57	$ 6,413
Vested or expected to vest at—September 30, 2017	1,007,899	$ 18.13	7.02	$ 7,535

Aggregate intrinsic value represents the difference between the estimated fair value of the underlying common stock and the exercise price of outstanding, in-the-money options.

Options to purchase 19,422 shares of common stock are performance based and vest upon the date the Company files a drug approval application for its product candidate A4250 for any orphan indication, if such filing occurs prior to a specified date. This unvested performance-based option is excluded from the vested or expected to vest balance as of September 30, 2017.

As of September 30, 2017, the total unrecognized compensation expense related to unvested options was $9.2 million, which the Company expects to recognize over a weighted average vesting period of 3.0 years.

In determining the estimated fair value of the stock-based awards, the Company uses the Black-Scholes option pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment to determine.

The fair value of stock option awards granted during the three and nine months ended September 30, 2017 was estimated with the following assumptions:

	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2017
Price per share of common stock	$20.44-$24.48	$17.05-$24.48
Expected term (in years)	5.2-6.9	5.2-6.9
Risk-free interest rate	1.9-2.2%	1.9-2.2%
Expected volatility	76.2-77.0	69.5-78.4
Dividend rate	0%	0%

7. Long-term debt

	September 30, 2017	December 31, 2016
	(in thousands)	
Long-term debt, including current portion:		
Loan Facility	$ 1,470	$ 3,075
Total debt	1,470	3,075
Less: current portion	(1,470)	(3,075)
Long-term debt	$ —	$ —

Loan Facility

The Company (in particular, Albireo Limited) executed a loan agreement (Loan Facility) with Kreos Capital IV (UK) Limited (Kreos UK) in December 2014, at which time the Company borrowed €6.0 million ($7.3 million). The Loan Facility has a term of 36 months with principal and interest payable monthly, with an annual interest rate of 11.5%. In addition, the Company is required to make an end-of-loan payment equal to 1.25% of the amounts lent by Kreos UK. The principal amount outstanding as of September 30, 2017 was $906,000 (€767,000). The outstanding amount is due and payable in average monthly installments of €256,000 ($302,000, based on the Euro to USD exchange rate as of September 30, 2017) and an end of loan payment of €670,000 ($792,000, based on the Euro to USD exchange rate as of September 30, 2017) due and payable on December 1, 2017.

The Company is accreting the debt discount of $30,000 remaining as of September 30, 2017 over the remaining three months of the loan term. Interest expense included $83,000 and $235,000 of discount accretion for the three months ended September 30, 2017 and 2016, respectively, and $387,000 and $707,000 of discount accretion for the nine months ended September 30, 2017 and 2016, respectively.

The Company has the option to redeem all outstanding amounts. Upon the occurrence of a sale or a change of control, the Company shall redeem the principal, accrued interest and other fees, and remaining interest payments calculated until the end of the term, discounted by 5%.

Parent's subsidiary, Albireo Limited, has pledged its shares in its subsidiary, Albireo AB, and has granted a debenture (incorporating fixed and floating charges) over its assets by way of security for the obligations it owes under the Loan Facility.

The Loan Facility is guaranteed by Parent and two of Parent's indirect subsidiaries, Elobix AB and Albireo AB, as the principal obligors that have severally agreed to indemnify and keep indemnified Kreos UK in full and on demand from and against all and any losses, costs, claims, liabilities, damages, demands and expenses suffered or incurred by Kreos UK arising out of, or in connection with, any failure of the Company to perform or discharge any of its obligations or liabilities.

In addition, Parent, Elobix AB and Albireo AB have agreed to pledge the following:

- Parent shares in Albireo Limited
- Albireo AB shares in Elobix AB
- Albireo AB bank accounts
- Albireo AB A4250 patents

- Elobix AB elobixibat patents
- Elobix AB bank accounts

Although the bank accounts of Albireo AB and Elobix AB were pledged, Albireo AB and Elobix AB are not restricted from using the cash for working capital requirements.

The Company also pledged its present and future rights to fees, royalties and other payments due and payable any time under its license agreement with EA Pharma to Kreos UK in support of the Loan Facility.

On February 4, 2016, the Company (in particular, Albireo Limited) entered a Deed of Variation related to the Loan Facility. Under the terms of the Deed of Variation, the timing of principal payments was changed such that €512,000 ($605,000, based on the Euro to USD exchange rate as of September 30, 2017) of the payments was deferred to become payable at the end of the loan term. The total principal due under the Loan Facility remained unchanged. In addition, there were no changes to the maturity date or the stated interest rate. The Company accounted for the amendment to the Loan Facility prospectively in accordance with ASC 470-50, *Modifications and Extinguishments*, as there were no concessions granted to the Company by the lender and the difference in cash flows between the original and amended loans did not change by more than 10% per lender. As a result of the modification, the transaction costs incurred in connection with the amendment were expensed when incurred and the effective interest rate calculation was updated, resulting in an effective interest rate of 39.3%.

8. Derivatives

The following disclosures summarize the fair value of derivative instruments not designated as hedging instruments in the Condensed Consolidated Balance Sheet as of September 30, 2017 and the effects of changes in fair value related to those derivative instruments on the Condensed Consolidated Statements of Operations (in thousands):

Derivative Instruments Not Designated as Hedging Instruments	Balance Sheet Location	September 30, 2017	December 31, 2016
Warrants liability	Current liabilities	—	844

Effect of Derivative Instruments Not Designated as Hedging Instruments	Location of Gains (Losses) Recognized	Nine Months Ended September 30, 2017	2016
Derivative liabilities	Non-operating income (expense), net	$ —	$ 153
Warrants liability	Non-operating income (expense), net	251	(689)

Effect of Derivative Instruments Not Designated as Hedging Instruments	Location of Gains (Losses) Recognized	Three Months Ended September 30, 2017	2016
Derivative liabilities	Non-operating income (expense), net	$ —	$ 298
Warrants liability	Non-operating income (expense), net	—	(1,454)

The derivative liabilities related to the conversion feature embedded in the 2014 Convertible Loans and 2015 Convertible Loans have been separately recognized at their respective fair values. The Company determined that embedded features met the definition of a derivative and were required to be recorded at fair value at issuance and remeasured for each reporting period thereafter. Immediately prior to completion of the Transaction on November 3, 2016, the conversion rights for the 2014 Convertible Loans and the 2015 Convertible Loans were exercised.

9. Financings

May 2017 Underwritten Public Offering

On May 30, 2017, Parent completed an underwritten public offering of 2,530,000 shares of its common stock, which included the full exercise of the underwriter's option to purchase 330,000 shares to cover overallotments, at a price to the public of $20.50 per share. Parent received net proceeds from this offering of $48.5 million, after deducting underwriting discounts, commissions and offering expenses.

10. Subsequent Events

On October 13, 2017, Parent entered into a sales agreement with Cowen and Company, LLC (Cowen) with respect to an at-the-market offering program under which Parent may offer and sell, from time to time at its sole discretion, up to $50 million in shares of its common stock through Cowen as its sales agent. The issuance and sale of shares under the sales agreement, if any, is subject to the effectiveness of Parent's registration statement on Form S-3 that was filed with the Securities and Exchange Commission on October 13, 2017. Parent is not obligated to make any sales of common stock under the agreement.

On October 26, 2017, Parent entered into an asset purchase agreement pursuant to which it sold legacy intellectual property of its predecessor, Biodel, for $4.5 million.

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

You should read the following discussion and analysis of our financial condition and results of operations together with our condensed consolidated financial statements and the related notes included elsewhere in this quarterly report and our audited financial statements and Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC. In addition to historical information, the following discussion contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results, performance or experience could differ materially from what is indicated by any forward-looking statement due to various important factors, risks and uncertainties, including, but not limited to, those set forth under "Cautionary Note Regarding Forward-Looking Statements" included elsewhere in this quarterly report or under "Risk Factors" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2016 or other filings that we make with the SEC.

Overview

Prior to November 3, 2016, we were a specialty biopharmaceutical company known as Biodel Inc. that historically had been focused on the development and commercialization of innovative treatments for diabetes. On November 3, 2016, we completed a share exchange transaction, or the Transaction, pursuant to an Amended and Restated Share Exchange Agreement dated July 13, 2016 that we entered into with Albireo Limited and the shareholders and noteholders of Albireo Limited. Upon the completion of the Transaction, we changed our name to "Albireo Pharma, Inc.," the business of Albireo Limited became our business and we became a biopharmaceutical company focused on the development and commercialization of novel bile acid modulators to treat orphan pediatric liver diseases and gastrointestinal disorders where improper flow or absorption of bile causes serious medical conditions for which there is high unmet need. The initial target indication for our lead product candidate, A4250, is progressive familial intrahepatic cholestasis, or PFIC, a rare, life-threatening genetic disorder affecting young children for which there is currently no approved drug treatment. We have completed a Phase 2 clinical trial in children with chronic cholestasis and we plan to initiate a Phase 3 clinical trial in patients with PFIC by the spring of 2018. In addition to PFIC, we plan to consider conducting future clinical development of A4250 as a treatment for other pediatric cholestatic liver diseases and disorders. Our clinical-stage product candidates in addition to A4250 include elobixibat, for which our licensee has submitted a new drug application for approval in Japan to treat chronic constipation, and A3384, which is in development to treat bile acid malabsorption. We also have a preclinical program in nonalcoholic steatohepatitis, or NASH.

For accounting purposes, the Transaction was treated as a "reverse acquisition" and Albireo Limited was considered the accounting acquirer. Accordingly, with respect to periods prior to completion of the Transaction, this discussion and analysis reflects the historical results of Albireo Limited and its direct and indirect subsidiaries and does not include the historical results of Biodel prior to completion of the Transaction.

Biodel was incorporated in December 2003 and commenced active operations in January 2004. Albireo Limited's business began when Albireo Limited was spun out of AstraZeneca AB in 2008.

Since inception, we have incurred significant operating losses. As of September 30, 2017, we had an accumulated deficit of $45.3 million. We expect to continue to incur significant expenses and increasing operating losses for at least the next few years as we continue our development of, and seek marketing approvals for, our product candidates, prepare for and begin the commercialization of any approved products, and add infrastructure and personnel to support our product development efforts and operations as a public company in the United States.

As a clinical-stage company, our revenues, expenses and results of operations are likely to fluctuate significantly from quarter to quarter and year to year. Accordingly, we believe that period-to-period comparisons of our results of operations should not be relied upon as indicative of our future performance.

As of September 30, 2017, we had $57.1 million in cash and cash equivalents.

Financial Operations Overview

The following discussion sets forth certain components of our consolidated statements of operations as well as factors that impact those items.

Revenue

We generate revenue primarily from the receipt of upfront or license fees, milestone payments and payment for pharmaceutical ingredient or related procurement services that are made pursuant to license agreements or related supply agreements. License agreements with commercial partners generally include nonrefundable upfront fees and milestone payments, the receipt of which is

dependent upon the achievement of specified development, regulatory or commercial milestone events, as well as royalties on product sales of licensed products, if and when such product sales occur, and payments for pharmaceutical ingredient or related procurement services. For these agreements, management applies judgment in the allocation of total agreement consideration to the separately identifiable components on a reliable basis that reasonably reflects the selling prices that might be expected to be achieved in stand-alone transactions.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of personnel costs (including salaries, benefits and stock-based compensation) for employees in research and development functions, costs associated with nonclinical and clinical development services, including clinical trials and related manufacturing costs, third-party contract research organizations, or CROs, and related services and other outside costs, including fees for third-party professional services such as consultants. Our nonclinical studies and clinical studies are performed by CROs. We expect to continue to focus our research and development efforts on nonclinical studies and clinical trials of our product candidates. As a result, we expect our research and development expenses to continue to increase for the foreseeable future.

Our direct research and development expenses are tracked on a program-by-program basis and consist primarily of external costs such as fees paid to CROs and others in connection with our nonclinical and clinical development activities and related manufacturing. We do not allocate employee costs or facility expenses, including depreciation or other indirect costs, to specific product development programs because these costs are deployed across multiple product development programs and, as such, are not separately classified.

Successful development of our current and potential future product candidates is highly uncertain. Completion dates and costs for our programs can vary significantly by product candidate and are difficult to predict. As a result, we cannot estimate with any degree of certainty the costs we will incur in connection with development of any of our product candidates. We anticipate we will make determinations as to which programs and product candidates to pursue and how much funding to direct to each program and product candidate on an ongoing basis in response to the results of ongoing and future clinical trials, our ability to enter into licensing, collaboration and similar arrangements with respect to current or potential future product candidates, the success of research and development programs and our assessments of commercial potential.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs (including salaries, benefits and stock-based compensation) for our executive, finance and other administrative employees. In addition, general and administrative expenses include fees for third-party professional services, including consulting, information technology, legal and accounting services and other corporate expenses and allocated overhead.

Critical Accounting Policies and Estimates

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

Our significant accounting policies are described in Note 1 to our audited consolidated financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 and in Note 1 to our condensed consolidated financial statements included in this quarterly report. We believe that our accounting policies relating to revenue recognition, research and development expenses, stock-based compensation and fair value of financial instruments are the most critical to understanding and evaluating our reported financial results. We have identified these policies as critical because they are both important to the presentation of our financial condition and results of operations and require us to make judgments and estimates on matters that are inherently uncertain and may change in future periods. These policies are described under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates" in our Annual Report on Form 10-K for the year ended December 31, 2016.

Results of Operations

Three Months Ended September 30, 2017 and September 30, 2016

Revenue

	Three Months Ended September 30,		Change
	2017	2016	$
		(in thousands)	
Revenue	$ —	$ 28	$ (28)

There was no revenue for the three months ended September 30, 2017 compared with $28,000 for the three months ended September 30, 2016, a decrease of $28,000.

Research and development expenses

	Three Months Ended September 30,		Change
	2017	2016	$
		(in thousands)	
Research and development expenses	$ 3,226	$ 2,062	$ 1,164

Research and development expenses were $3.2 million for the three months ended September 30, 2017 compared with $2.1 million for the three months ended September 30, 2016, an increase of $1.2 million. The higher research and development expenses for the 2017 period were principally due to increases of $1.0 million in costs associated with development of A4250, including costs incurred for manufacturing and clinical development activities in preparation for a planned Phase 3 clinical trial in patients with PFIC, and $97,000 in costs related to nonclinical development activities associated with A3384.

The following table summarizes our principal product development programs and the out-of-pocket third-party expenses incurred with respect to each clinical-stage product candidate and our preclinical programs for the three months ended September 30, 2017 and 2016.

	Three Months Ended September 30,		Change
	2017	2016	$
		(in thousands)	
Direct third-party project costs:			
A4250	$ 1,988	$ 950	$ 1,038
Elobixibat	23	43	(20)
A3384	93	(4)	97
Preclinical	95	73	22
Total	$ 2,199	$ 1,062	$ 1,137
Other project costs(1):			
Personnel costs	$ 387	$ 749	$ (362)
Other costs(2)	640	251	389
Total	$ 1,027	$ 1,000	$ 27
Total research and development costs	$ 3,226	$ 2,062	$ 1,164

(1) Other project costs are leveraged across multiple programs.
(2) Other costs include facility, supply, patent, consultant and overhead costs that support multiple programs.

General and administrative expenses

	Three Months Ended September 30,		Change
	2017	2016	$
		(in thousands)	
General and administrative expenses	$ 3,709	$ 1,346	$ 2,363

General and administrative expenses were $3.7 million for the three months ended September 30, 2017 compared with $1.3 million for the three months ended September 30, 2016, an increase of $2.4 million. The higher general and administrative expenses for the 2017 period were principally due to increases of $589,000 in stock-based compensation expense, $465,000 in patent, facility-related and other costs, $436,000 in costs associated with being a public company, $430,000 in costs for accounting, legal and consulting services, and $412,000 in salary and benefits resulting from new hires made in the second half of 2016. We expect that we will incur increased accounting, audit, legal, regulatory, compliance, and investor and public relations expenses associated with operating as a public company in future periods.

Other (income) expense, net

	Three Months Ended September 30,		Change
	2017	2016	$
		(in thousands)	
Other (income) expense, net	$ (401)	$ 58	$ (459)

Other (income) expense, net totaled $401,000 of income for the three months ended September 30, 2017 compared with $58,000 of expense for the three months ended September 30, 2016, a difference of $459,000. The difference resulted from differences in currency exchange rates in the two periods.

Interest income (expense), net

	Three Months Ended September 30,		Change
	2017	2016	$
		(in thousands)	
Interest income (expense), net	$ 23	$ (508)	$ 531

Interest income (expense), net totaled $23,000 of income for the three months ended September 30, 2017 compared with $508,000 of expense for 2016, a difference of $531,000. The difference was principally attributable to an increase in interest income due to higher balances following the receipt of $48.5 million in net proceeds from an equity offering completed in May 2017, the conversion of convertible loan notes issued in 2014 and 2015 into equity in connection with the completion of the Transaction in November 2016 and a reduction in the amount of interest paid under our loan facility in accordance with its terms.

Non-operating income (expense), net

	Three Months Ended September 30,		Change
	2017	2016	$
		(in thousands)	
Non-operating income (expense), net	$ —	$ (84)	$ 84

There was no non-operating income (expense), net for the three months ended September 30, 2017 compared with net non-operating expense of $84,000 for the three months ended September 30, 2016, a difference of $84,000. The absence of net non-operating expense for the 2017 period reflects the exercise of warrants by our lender in May 2017.

Nine Months Ended September 30, 2017 and September 30, 2016

Revenue

	Nine Months Ended September 30,		Change
	2017	2016	$
		(in thousands)	
Revenue	$ 2	$ 8,125	$ (8,123)

Revenue was $2,000 for the nine months ended September 30, 2017 compared with $8.1 million for the nine months ended September 30, 2016, a decrease of $8.1 million. The decrease for the 2017 period was primarily attributable to a nonrefundable one-

time payment of $8.0 million received from EA Pharma Co., Ltd., or EA Pharma, in April 2016 in connection with a renegotiated payment stream under our license agreement with EA Pharma.

Research and development expenses

	Nine Months Ended September 30,		Change
	2017	2016	$
	(in thousands)		
Research and development expenses	$ 9,000	$ 6,372	$ 2,628

Research and development expenses were $9.0 million for the nine months ended September 30, 2017 compared with $6.4 million for the nine months ended September 30, 2016, an increase of $2.6 million. The higher research and development expenses for the 2017 period were principally due to increases of $2.4 million in costs related to A4250, including costs incurred for manufacturing and clinical development activities in preparation for a planned Phase 3 clinical trial in patients with PFIC, for a Phase 2 clinical trial in children with cholestatic liver disease completed in the first half of 2017, for a clinical trial to assess absorption, distribution, metabolism and excretion and for nonclinical carcinogenicity studies, and $201,000 in costs related to nonclinical development activities associated with A3384.

The following table summarizes our principal product development programs and the out-of-pocket third-party expenses incurred with respect to each clinical-stage product candidate and our preclinical programs for the nine months ended September 30, 2017 and 2016.

	Nine Months Ended September 30,		Change
	2017	2016	$
	(in thousands)		
Direct third-party project costs:			
A4250	$ 5,473	$ 3,020	$ 2,453
Elobixibat	19	124	(105)
A3384	201	—	201
Preclinical	179	217	(38)
Total	$ 5,872	$ 3,361	$ 2,511
Other project costs(1):			
Personnel costs	$ 1,331	$ 1,747	$ (416)
Other costs(2)	1,797	1,264	533
Total	$ 3,128	$ 3,011	$ 117
Total research and development costs	$ 9,000	$ 6,372	$ 2,628

(1) Other project costs are leveraged across multiple programs.
(2) Other costs include facility, supply, patent, consultant and overhead costs that support multiple programs.

General and administrative expenses

	Nine Months Ended September 30,		Change
	2017	2016	$
	(in thousands)		
General and administrative expenses	$ 10,634	$ 5,680	$ 4,954

General and administrative expenses were $10.6 million for the nine months ended September 30, 2017 compared with $5.7 million for the nine months ended September 30, 2016, an increase of $5.0 million. The higher general and administrative expenses for the 2017 period were principally attributable to increases of $2.5 million in stock-based compensation expense, which included $788,000 attributable to the correction of an understatement of stock-based compensation expense for the year ended December 31, 2016 due to the use of incorrect service periods in determining the expense, $1.5 million in costs associated with being a public company, $1.4 million in salary and benefits resulting from new hires made in the second half of 2016, $765,000 in patent, facility-related and other costs, and $104,000 in costs for consulting services, partially offset by a decrease of $1.6 million in legal and accounting costs resulting from the completion of the Transaction in November 2016.

Other (income) expense, net

	Nine Months Ended September 30,		Change
	2017	2016	$
	(in thousands)		
Other (income) expense, net	$ (392)	$ 193	$ (585)

Other (income) expense, net totaled $392,000 of income for the nine months ended September 30, 2017 compared with $193,000 of expense for the nine months ended September 30, 2016, a difference of $585,000. The difference resulted from changes in currency exchange rates between the two periods.

Interest income (expense), net

	Nine Months Ended September 30,		Change
	2017	2016	$
	(in thousands)		
Interest income (expense), net	$ (378)	$ (1,546)	$ 1,168

Interest income (expense), net totaled $378,000 of expense for the nine months ended September 30, 2017 compared with $1.5 million of expense for the nine months ended September 30, 2016, a decrease of $1.2 million. The lower net interest expense was attributable to the conversion of convertible loan notes issued in 2014 and 2015 into equity in connection with the completion of the Transaction in November 2016, a reduction in the amount of interest paid under our loan facility in accordance with its terms and an increase in interest income due to higher balances following the receipt of $48.5 million in net proceeds from an equity offering completed in May 2017.

Non-operating income (expense), net

	Nine Months Ended September 30,		Change
	2017	2016	$
	(in thousands)		
Non-operating income (expense), net	$ 260	$ 536	$ (276)

Non-operating income (expense), net was $260,000 of income for the nine months ended September 30, 2017 compared with $536,000 of income for the nine months ended September 30, 2016, a decrease of $276,000. The lower net non-operating income reflected a change in the mark-to-market adjustments on warrants between the periods and the exercise of warrants by our lender in May 2017.

Liquidity and Capital Resources

Sources of Liquidity

We do not expect to generate revenue from product sales unless and until we or a licensee obtains regulatory approval of and commercializes our current or any potential future product candidates. We anticipate that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of and seek regulatory approvals for our product candidates. We are subject to all of the risks applicable to the development of new pharmaceutical products and may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may harm our business. We expect that we will need substantial additional funding to complete development of and potentially commercialize our product candidates.

Our operations have historically been financed primarily through issuances of preference shares or convertible debt, upfront fees paid upon entering into license agreements, payments received upon the achievement of specified milestone events under license agreements, grants and venture debt borrowings. Our primary uses of capital are, and we expect will continue to be, personnel-related costs, third party expenses associated with our research and development programs, including the conduct of clinical trials, and manufacturing-related costs for our product candidates.

In May 2017, we completed an underwritten public offering of 2,530,000 shares of our common stock at a price to the public of $20.50 per share. Our net proceeds from the offering, after underwriting discounts, commissions and offering expenses, were $48.5 million.

In November 2016, we completed the Transaction and, immediately prior to the Transaction, an associated equity financing of $10.0 million. In the Transaction, we acquired cash of approximately $20 million, net of Biodel's commitments, that Biodel had on hand on the closing date.

In December 2014, we (Albireo Limited) entered into a loan facility agreement with Kreos Capital IV (UK) Limited, or Kreos UK, enabling us to borrow up to €6.0 million ($7.3 million). The loan facility has a term of 36 months, with principal and interest payable monthly after an initial six-month interest-only period, at an annual rate of 11.5%. In addition, we are required to make an end-of-loan payment equal to 1.25% of the amounts lent by Kreos UK. On the date of the agreement, we borrowed the full €6.0 million ($7.3 million). In February 2016, we amended the loan facility to reduce principal repayments for a period of six months. As of September 30, 2017, the outstanding balance due on the loan facility, including interest and the end-of-loan payment, was €1.2 million ($1.4 million based on the Euro to USD exchange rate as of September 30, 2017).

In April 2012, we (Albireo AB) entered into a license agreement with EA Pharma for the development and commercialization of elobixibat in specified countries in Asia. Albireo AB subsequently transferred the agreement to its wholly owned subsidiary, Elobix AB, and the agreement was amended in January 2015 and April 2016. As of September 30, 2017, we have received approximately $34.7 million in upfront and milestone payments from EA Pharma under this agreement. We are eligible to receive additional payments of up to €13.3 million under the amended agreement ($15.7 million based on the Euro to USD exchange rate as of September 30, 2017) if specified regulatory events are achieved for elobixibat and up to ¥3.5 billion ($31.2 million based on the Japanese Yen to USD exchange rate as of September 30, 2017) if specified sales milestones are achieved for elobixibat. We are also eligible for stepped royalties at rates beginning in the high single digits on any future elobixibat product sales.

As of September 30, 2017, our cash and cash equivalents were $57.1 million.

In October 2017, following the end of the third quarter ended September 30, 2017, we entered into an asset purchase agreement pursuant to which we sold legacy intellectual property of our predecessor, Biodel, for $4.5 million.

Cash Flows

Nine Months Ended September 30, 2017 and September 30, 2016

	Nine Months Ended September 30,	
	2017	2016
	(in thousands)	
Net cash provided by (used in):		
Operating activities	$ (19,621)	(2,324)
Investing activities	(187)	(3)
Financing activities	46,567	(1,348)
Total	$ 26,759	$ (3,675)
Effect of exchange rate changes on cash and cash equivalents	383	270
Net increase in cash and cash equivalents	27,142	(3,405)

Operating activities

Net cash used in operating activities for the nine months ended September 30, 2017 was $19.6 million compared to net cash used in operating activities of $2.3 million for the corresponding 2016 period, an increase of $17.3 million. The higher net cash used in operating activities for the 2017 period principally resulted from an increase in the 2017 period of $14.2 million in net loss due to a higher level of clinical trial activity and higher personnel expenses and a one-time payment from EA Pharma of $8.0 million received in April 2016 in connection with a renegotiated payment stream, partially offset by a decrease of $4.9 million in the 2017 period in accrued expenses due mainly to severance paid to former Biodel personnel.

Investing activities

Net cash used in investing activities was $187,000 for the nine months ended September 30, 2017 compared to $3,000 for the corresponding 2016 period, an increase of $184,000. The increase was due to greater property and equipment purchases in connection with our move to different offices in Boston.

Financing activities

Net cash provided by financing activities for the nine months ended September 30, 2017 was $46.6 million compared to net cash used in financing activities of $1.3 million for the corresponding 2016 period, a difference of $47.9 million. The difference was principally due to our receipt of $48.5 million in net proceeds from a public offering in May 2017 and the exercise of compensatory stock options, partially offset by higher principal payments under the loan facility with Kreos in the 2017 period following a February 2016 amendment to reduce principal payments for six months.

Funding Requirements

Cash used to fund operating expenses is affected by the timing of when we pay expenses, as reflected in the change in our outstanding accounts payable and accrued expenses. We believe that our existing cash and cash equivalents will be sufficient to meet our projected operating requirements through at least 2019, assuming receipt of a contingent milestone payment from EA Pharma in 2018. However, our operating plans may change as a result of many factors, including those described below and we may need additional funds sooner than planned to meet operational needs and capital requirements. In addition, if the conditions for raising capital are favorable we may seek to raise additional funds at any time.

Our future funding requirements will depend on many factors, including the following:

- the costs, design, timing of initiation, duration and any potential delays of, and the results of, our planned Phase 3 clinical trial of A4250;
- the scope, number, progress, duration, cost, results and timing of clinical trials and nonclinical studies of our current or potential future product candidates;
- whether and to what extent milestone events are achieved under our license agreement with EA Pharma or any potential future licensee or collaborator;
- the outcomes and timing of regulatory reviews, approvals or other actions;
- our ability to obtain marketing approval for our product candidates;
- our ability to establish and maintain additional licensing, collaboration or similar arrangements on favorable terms and whether and to what extent we retain development or commercialization responsibilities under any new licensing, collaboration or similar arrangement;
- the success of any other business, product or technology that we acquire or in which we invest;
- our ability to maintain, expand and defend the scope of our intellectual property portfolio;
- our ability to manufacture any approved products on commercially reasonable terms;
- our ability to establish a sales and marketing organization or suitable third-party alternatives for any approved product;
- the number and characteristics of product candidates and programs that we pursue;
- the costs of acquiring, licensing or investing in businesses, product candidates and technologies;
- our need and ability to hire additional management and scientific and medical personnel;
- the costs to operate as a public company in the United States, including the need to implement additional financial and reporting systems and other internal systems and infrastructure for our business;
- market acceptance of our product candidates, to the extent any are approved for commercial sale; and
- the effect of competing technological and market developments.

We cannot determine precisely the completion dates and related costs of our development programs due to inherent uncertainties in outcomes of clinical trials and the regulatory approval process. We cannot be certain that we will be able to successfully complete our research and development programs or establish licensing, collaboration or similar arrangements for our

product candidates. Our failure or the failure of any current or potential future licensee to complete research and development programs for our product candidates could have a material adverse effect on our financial position or results of operations.

We expect to continue to incur losses. Our ability to achieve and maintain profitability is dependent upon the successful development, regulatory approval and commercialization of our product candidates and achieving a level of revenues adequate to support our cost structure. We may never achieve profitability.

If the conditions for raising capital are favorable, we may seek to finance future cash needs through public or private equity or debt offerings or other financings. We previously filed a universal shelf registration statement on Form S-3 with the SEC, which was declared effective on January 10, 2017, pursuant to which we registered for sale $100 million of any combination of our common stock, preferred stock, debt securities, warrants, rights, purchase contracts and/or units. On May 30, 2017, we closed an underwritten public offering of 2,530,000 shares of our common stock for gross proceeds of $51.9 million under a previous shelf registration statement. Following that closing, approximately $48.1 million of securities remain available for issuance under this shelf registration statement. On October 13, 2017, we filed a new universal shelf registration statement on Form S-3 with the SEC to register for sale $125 million of any combination of our common stock, preferred stock, debt securities, warrants, rights, purchase contracts and/or units, including $50 million of our common stock in an at-the-market offering under a sales agreement with Cowen and Company, LLC, from time to time and at prices and on terms that we may determine. The new shelf registration statement has not yet been declared effective, but, when it becomes effective, the new registration statement will remain effective for up to three years from the effective date. In addition, our previous shelf registration statement discussed above will be terminated at the time the new universal shelf registration is declared effective. Additionally, if we need to raise additional capital to fund our operations, complete our ongoing and planned clinical trials, or potentially commercialize our product candidates, we may likewise seek to finance future cash needs through public or private equity or debt offerings or other financings. The necessary funding may not be available to us on acceptable terms or at all.

The sale of additional equity or convertible debt securities may result in significant dilution to our stockholders, and the terms may include liquidation or other preferences that adversely affect the rights of our stockholders. The incurrence of additional debt financing would result in debt service obligations and the instruments governing such debt may provide for operating and financing covenants that would restrict our operations. We may also seek to finance future cash needs through potential future licensing, collaboration or similar arrangements. These arrangements may not be available on acceptable terms or at all, and we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate our development programs or obtain funds through third-party arrangements that may require us to relinquish rights to certain product candidates that we might otherwise seek to develop or commercialize independently.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Not required for smaller reporting companies.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our principal executive officer and principal financial officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this Form 10-Q, have concluded that, based on such evaluation and as a result of the material weaknesses discussed below, our disclosure controls and procedures were not effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Material Weaknesses and Remediation of Material Weaknesses

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. We have identified material weaknesses in our internal control over financial reporting, as described below. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial

reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

We became a public company via a share exchange transaction completed in November 2016. Prior to that, our parent company was a private entity domiciled in the United Kingdom. We have historically not had the people, processes and systems in place in order to have appropriately designed and operating controls over our financial statement close process.

As previously reported in connection with our 2016 financial statements, we identified a material weakness in our internal control over financial reporting, specifically a lack of controls over the identification and review of complex accounting issues involving significant judgment or estimates in the financial statement closing process resulting from our limited in-house accounting and finance team. We have historically relied on consultants and external advisors to provide assistance with financial reporting in accordance with the requirements of U.S. generally accepted accounting principles (GAAP) and the rules and regulations of the SEC, and these consultants and external advisors may not have had direct knowledge of all of our business, transactions and contracts. Specifically, we determined that we did not have sufficient resources with GAAP and SEC financial reporting knowledge to ensure a timely and sufficient financial statement close process that includes resolution of complex accounting issues involving significant judgment and estimates.

Additionally, our financial accounting information system has limited functionality and certain closing and consolidating activities are managed and processed outside of the system. These system limitations, as well as a lack of sufficient accounting staff, negatively affect the design and operation of our financial statement close process. Deficiencies in our financial statement close process have limited our ability to adequately monitor certain adjustments and perform appropriate account analyses and reconciliations. These deficiencies constitute a material weakness in internal control over financial reporting and have resulted in financial statement errors not being identified on a timely basis.

We are working to remediate the material weaknesses. In particular, we hired a full-time chief financial officer in July 2016, a controller in March 2017 and a staff accountant in Sweden in September 2017. Also, we expect to implement a new accounting information system in the fourth quarter of this year and we will be redesigning our close process upon implementation of this new system. The material weaknesses will not be considered remediated until the applicable controls operate for a sufficient period of time and management has concluded, through testing, that the controls are operating effectively.

Changes in Internal Control over Financial Reporting

Other than as described above, there were no changes in our internal control over financial reporting identified in connection with the evaluation of such internal control that occurred during the three months ended September 30, 2017 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1A. Risk Factors

In addition to the other information set forth in this report and the risk factors discussed in Part I, Item 1A. "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016, you should carefully consider the "Risk Factors" discussed in Exhibit 99.3 to our Current Report on Form 8-K, as filed with the Securities and Exchange Commission on May 23, 2017, which could materially affect our business, financial condition or results of operations.

Item 6. Exhibits

Exhibit No.	Description	Filed Herewith	Incorporated by Reference Herein from Form or Schedule	Filing Date	SEC File/ Req. Number
3.1.1	Restated Certificate of Incorporation of the Registrant, as amended.		S-3 (Exhibit 4.1.1)	10/13/17	333-220958
3.1.2	Certificate of Designation of Series A Convertible Preferred Stock of the Registrant, filed with the Secretary of State of the State of Delaware on May 17, 2011.		8-K (Exhibit 4.6)	5/19/2011	001-33451
3.1.3	Certificate of Designation of Series B Convertible Preferred Stock of the Registrant, filed with the Secretary of State of the State of Delaware on June 26, 2012.		8-K (Exhibit 4.8)	6/27/2012	001-33451
10.1	Albireo Pharma, Inc. 2017 Inducement Equity Incentive Plan	X			
31.1	Certification of the Registrant's Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X			
31.2	Certification of the Registrant's Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X			
32.1	Certification of Principal Executive Officer and Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X			
101	The following materials from the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, formatted in XBRL (eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets (unaudited) at September 30, 2017 and December 31, 2016, (ii) Condensed Consolidated Statements of Operations (unaudited) for the three and nine months ended September 30, 2017 and 2016, (iii) Condensed Consolidated Statements of Comprehensive Loss (unaudited) for the three and nine months ended September 30, 2017 and 2016, (iv) Condensed Consolidated Statements of Cash Flows (unaudited) for the nine months ended September 30, 2017 and 2016, and (v) Notes to Condensed Consolidated Financial Statements (unaudited).	X			

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.

ALBIREO PHARMA, INC.

Dated: November 14, 2017

By: /s/ Ronald H.W. Cooper
Ronald H.W. Cooper
President and Chief Executive Officer

ALBIREO PHARMA, INC.

2017 INDUCEMENT EQUITY INCENTIVE PLAN

1. DEFINITIONS.

Unless otherwise specified or unless the context otherwise requires, the following terms, as used in this Albireo Pharma, Inc. 2017 Inducement Equity Incentive Plan, have the following meanings:

Administrator means the Board of Directors, unless it has delegated power to act on its behalf to the Committee, in which case the term Administrator means the Committee.

Affiliate means a corporation which, for purposes of Section 424 of the Code, is a parent or subsidiary of the Company, direct or indirect.

Agreement means an agreement between the Company and a Participant pertaining to a Stock Right delivered pursuant to the Plan in such form as the Administrator shall approve.

Board of Directors means the Board of Directors of the Company.

Cause means, with respect to a Participant: (a) dishonesty with respect to the Company or any Affiliate, (b) insubordination, substantial malfeasance or non-feasance of duty, (c) unauthorized disclosure of confidential information, (d) breach by a Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or similar agreement between the Participant and the Company or any Affiliate, and (e) conduct substantially prejudicial to the business of the Company or any Affiliate; provided, however, that any provision in an agreement between a Participant and the Company or an Affiliate, which contains a conflicting definition of Cause for termination and which is in effect at the time of such termination, shall supersede this definition with respect to that Participant. The determination of the Administrator as to the existence of Cause will be conclusive on the Participant and the Company.

Change of Control means the occurrence of any of the following events (unless otherwise specified in an Agreement):

Ownership. Any "Person" (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the "Beneficial Owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities (excluding for this purpose any such voting securities held by the Company or its Affiliates or by any employee benefit plan of the

Company) pursuant to a transaction or a series of related transactions which the Board of Directors does not approve; or

Merger/Sale of Assets. (A) A merger or consolidation of the Company whether or not approved by the Board of Directors, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or the parent of such corporation) more than 50% of the total voting power represented by the voting securities of the Company or such surviving entity or parent of such corporation, as the case may be, outstanding immediately after such merger or consolidation; or (B) the sale or disposition by the Company of all or substantially all of the Company's assets in a transaction requiring stockholder approval; or

Change in Board Composition. A change in the composition of the Board of Directors, as a result of which fewer than a majority of the directors are Incumbent Directors. "Incumbent Directors" shall mean directors who either (A) are directors of the Company as of September 13, 2017, or (B) are elected, or nominated for election, to the Board of Directors with the affirmative votes of at least a majority of the Incumbent Directors at the time of such election or nomination (but shall not include an individual whose election or nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company).

provided, that if any payment or benefit payable hereunder upon or following a Change of Control would be required to comply with the limitations of Section 409A(a)(2)(A)(v) of the Code in order to avoid an additional tax under Section 409A of the Code, such payment or benefit shall be made only if such Change of Control constitutes a change in ownership or control of the Company, or a change in ownership of the Company's assets in accordance with Section 409A of the Code.

Code means the United States Internal Revenue Code of 1986, as amended, including any successor statute, regulation and guidance thereto.

Committee means the committee of the Board of Directors to which the Board of Directors has delegated power to act under or pursuant to the provisions of the Plan, the composition of which shall at all times satisfy the provisions of Section 162(m) of the Code.

Common Stock means shares of the Company's common stock, $.01 par value per share.

Company means Albireo Pharma, Inc., a Delaware corporation.

Disability or Disabled means permanent and total disability as defined in Section 22(e)(3) of the Code.

Director means any member of the Board of Directors.

Employee means any employee of the Company or of an Affiliate (including, without limitation, an employee who is also serving as an officer or director of the Company or of an Affiliate), designated by the Administrator to be eligible to be granted one or more Stock Rights under the Plan.

Exchange Act means the Securities Exchange Act of 1934, as amended.

Fair Market Value of a Share of Common Stock means:

If the Common Stock is listed on a national securities exchange or traded in the over-the-counter market and sales prices are regularly reported for the Common Stock, the closing or, if not applicable, the last price of the Common Stock on the composite tape or other comparable reporting system for the trading day on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date;

If the Common Stock is not traded on a national securities exchange but is traded on the over-the-counter market, if sales prices are not regularly reported for the Common Stock for the trading day referred to in clause (1), and if bid and asked prices for the Common Stock are regularly reported, the mean between the bid and the asked price for the Common Stock at the close of trading in the over-the-counter market for the trading day on which Common Stock was traded on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date; and

If the Common Stock is neither listed on a national securities exchange nor traded in the over-the-counter market, such value as the Administrator, in good faith, shall determine in compliance with applicable laws.

Non-Qualified Option means an option which is not intended to qualify as an incentive stock option under Section 422 of the Code.

Option means a Non-Qualified Option granted under the Plan.

Participant means an Employee or a Director to whom one or more Stock Rights are granted under the Plan. As used herein, "Participant" shall include Participant's Survivors where the context requires.

Plan means this Albireo Pharma, Inc. 2017 Inducement Equity Incentive Plan.

Securities Act means the Securities Act of 1933, as amended.

Shares means shares of the Common Stock as to which Stock Rights have been or may be granted under the Plan or any shares of capital stock into which the Shares are changed or for which they are exchanged within the provisions of Paragraph 3 of the Plan. The Shares issued under the Plan may be authorized and unissued shares or shares held by the Company in its treasury, or both.

Stock-Based Award means a grant by the Company under the Plan of an equity award or an equity based award which is not an Option or a Stock Grant.

Stock Grant means a grant by the Company of Shares under the Plan.

Stock Right means a right to Shares or the value of Shares of the Company granted pursuant to the Plan -- a Non-Qualified Option, a Stock Grant or a Stock-Based Award.

Survivor means a deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to a Stock Right by will or by the laws of descent and distribution.

2. PURPOSES OF THE PLAN.

The Plan is intended to encourage ownership of Shares by Employees and directors of the Company and its Affiliates and Directors in order to attract and retain such people, to induce them to work for the benefit of the Company or of an Affiliate and to provide additional incentive for them to promote the success of the Company or of an Affiliate. The Company intends that the Plan be reserved for persons to whom the Company may issue securities without stockholder approval as an inducement pursuant to Listing Rule 5635(c)(4) of the corporate governance rules of the NASDAQ Stock Market. The Plan provides for the granting of Non-Qualified Options, Stock Grants and Stock-Based Awards.

3. SHARES SUBJECT TO THE PLAN.

(a) The number of Shares which may be issued from time to time pursuant to this Plan shall be 150,000 or the equivalent of such number of Shares after the Administrator, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with Paragraph 24 of the Plan.

(b) If an Option ceases to be "outstanding," in whole or in part (other than by exercise), or if the Company shall reacquire (at not more than its original issuance price) any Shares issued pursuant to a Stock Grant or Stock-Based Award, or if any Stock Right expires or is forfeited, cancelled, or otherwise terminated or results in any Shares not being issued, the unissued or reacquired Shares which were subject to such Stock Right shall again be available for issuance from time to time pursuant to this Plan. Notwithstanding the foregoing: (i) if a Stock Right is exercised, in whole or in part, by the tender or withholding of Shares or if the Company or an Affiliate's tax withholding obligation is satisfied by the tender or withholding of Shares, the number of Shares deemed to have been issued under the Plan for purposes of the limitation set forth in Paragraph 3(a) above shall be the gross number of Shares that were subject to the Stock Right or portion thereof and not the net number of Shares actually issued; and (ii) any Shares purchased on the open market from the proceeds of an exercise of a Stock Right shall not be available for issuance pursuant to this Plan.

4. ADMINISTRATION OF THE PLAN.

The Administrator of the Plan will be the Board of Directors, except to the extent the Board of Directors delegates its authority to the Committee, in which case the Committee shall be the Administrator. Subject to the provisions of the Plan, the Administrator is authorized to:

(a) Interpret the provisions of the Plan and all Stock Rights and to make all rules and determinations which it deems necessary or advisable for the administration of the Plan;

(b) Determine which Employees and Directors shall be granted Stock Rights;

(c) Determine the number of Shares for which a Stock Right or Stock Rights shall be granted;

(d) Specify the terms and conditions upon which a Stock Right or Stock Rights may be granted;

(e) Amend any term or condition of any outstanding Stock Right, other than reducing the exercise price or purchase price or extending the expiration date of an Option, provided that (i) such term or condition as amended is not prohibited by the Plan; (ii) any such amendment shall not impair the rights of a Participant under any Stock Right previously granted without such Participant's consent or in the event of death of the Participant the Participant's Survivors; and (iii) any such amendment shall be made only after the Administrator determines whether such amendment would cause any adverse tax consequences to the Participant, including, but not limited to, pursuant to Section 409A of the Code; and

(f) Adopt any sub-plans applicable to residents of any specified jurisdiction as it deems necessary or appropriate in order to comply with or take advantage of any tax or other laws applicable to the Company, any Affiliate or to Participants or to otherwise facilitate the administration of the Plan, which sub-plans may include additional restrictions or conditions applicable to Stock Rights or Shares issuable pursuant to a Stock Right;

provided, however, that all such interpretations, rules, determinations, terms and conditions shall be made and prescribed in the context of not causing any adverse tax consequences under Section 409A of the Code. Subject to the foregoing, the interpretation and construction by the Administrator of any provisions of the Plan or of any Stock Right granted under it shall be final, unless otherwise determined by the Board of Directors, if the Administrator is the Committee. In addition, if the Administrator is the Committee, the Board of Directors may take any action under the Plan that would otherwise be the responsibility of the Committee.

To the extent permitted under applicable law, the Board of Directors or the Committee may allocate all or any portion of its responsibilities and powers to any one or more of its members and may delegate all or any portion of its responsibilities and powers to any other person selected by it. The Board of Directors or the Committee may revoke any such allocation or delegation at any time. Notwithstanding the foregoing, only the Board of Directors or the Committee shall be

authorized to grant a Stock Right to any Director or to any "officer" of the Company as defined by Rule 16a-1 under the Exchange Act.

5. ELIGIBILITY FOR PARTICIPATION.

The Administrator will, in its sole discretion, name the Participants in the Plan; provided, however, that each Participant must be an Employee or a Director at the time a Stock Right is granted and a person to whom the Company may issue securities without stockholder approval as an inducement pursuant to Listing Rule 5635(c)(4) of the corporate governance rules of the NASDAQ Stock Market. Notwithstanding the foregoing, the Administrator may authorize the grant of a Stock Right to a person not then an Employee or a Director; provided, however, that the actual grant of such Stock Right shall be conditioned upon such person becoming eligible to become a Participant at or prior to the time of the execution of the Agreement evidencing such Stock Right. Non-Qualified Options, Stock Grants and Stock-Based Awards may be granted to any Director or any Employee. The granting of any Stock Right to any individual shall neither entitle that individual to, nor disqualify him or her from, participation in any other grant of Stock Rights or any grant under any other benefit plan established by the Company or any Affiliate for Employees or Directors.

6. TERMS AND CONDITIONS OF OPTIONS.

Each Option shall be set forth in writing in an Option Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Administrator may provide that Options be granted subject to such terms and conditions, consistent with the terms and conditions specifically required under this Plan, as the Administrator may deem appropriate. The Option Agreements shall be subject to at least the following terms and conditions:

Each Non-Qualified Option shall be subject to the terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company, subject to the following minimum standards for any such Non-Qualified Option:

(i) Exercise Price: Each Option Agreement shall state the exercise price (per share) of the Shares covered by each Option, which exercise price shall be determined by the Administrator and shall be at least equal to the Fair Market Value per share of Common Stock on the date of grant of the Option.

(ii) Number of Shares: Each Option Agreement shall state the number of Shares to which it pertains.

(iii) Vesting: Each Option Agreement shall state the date or dates on which it first is exercisable and the date after which it may no longer be exercised, and may provide that the Option rights accrue or become exercisable in installments over a period of months or years, or upon the occurrence of certain performance conditions or the attainment of stated goals or events.

(iv) Additional Conditions: Exercise of any Option may be conditioned upon the Participant's execution of a Share purchase agreement in form satisfactory to the Administrator providing for certain protections for the Company and its other stockholders, including requirements that:

A. The Participant's or the Participant's Survivors' right to sell or transfer the Shares may be restricted; and

B. The Participant or the Participant's Survivors may be required to execute letters of investment intent and must also acknowledge that the Shares will bear legends noting any applicable restrictions.

(v) Term of Option: Each Option shall terminate not more than ten years from the date of the grant or at such earlier time as the Option Agreement may provide.

7. TERMS AND CONDITIONS OF STOCK GRANTS.

Each Stock Grant to a Participant shall state the principal terms in an Agreement duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Agreement shall be in a form approved by the Administrator and shall contain terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company, subject to the following minimum standards:

(a) Each Agreement shall state the purchase price per share, if any, of the Shares covered by each Stock Grant, which purchase price shall be determined by the Administrator but shall not be less than the minimum consideration required by the Delaware General Corporation Law, if any, on the date of the grant of the Stock Grant;

(b) Each Agreement shall state the number of Shares to which the Stock Grant pertains; and

(c) Each Agreement shall include the terms of any right of the Company to restrict or reacquire the Shares subject to the Stock Grant, including the time period or attainment of performance criteria upon which such rights shall accrue and the purchase price therefor, if any.

8. TERMS AND CONDITIONS OF OTHER STOCK-BASED AWARDS.

The Administrator shall have the right to grant other Stock-Based Awards based upon the Common Stock having such terms and conditions as the Administrator may determine, including, without limitation, the grant of Shares based upon certain conditions, the grant of securities convertible into Shares and the grant of stock appreciation rights, phantom stock awards or stock units. The principal terms of each Stock-Based Award shall be set forth in an Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Agreement shall be in a form approved by the Administrator and shall contain terms and conditions which the Administrator determines to be appropriate and in the best interest

of the Company. Each Agreement shall include the terms of any right of the Company including the right to terminate the Stock-Based Award without the issuance of Shares, the terms of any vesting conditions, or events upon which Shares shall be issued. Under no circumstances may the Agreement covering stock appreciation rights (a) have an exercise price (per share) that is less than the Fair Market Value per share of Common Stock on the date of grant or (b) expire more than ten years following the date of grant.

The Company intends that the Plan and any Stock-Based Awards granted hereunder be exempt from the application of Section 409A of the Code or meet the requirements of paragraphs (2), (3) and (4) of subsection (a) of Section 409A of the Code, to the extent applicable, and be operated in accordance with Section 409A so that any compensation deferred under any Stock-Based Award (and applicable investment earnings) shall not be included in income under Section 409A of the Code. Any ambiguities in the Plan shall be construed to effect the intent as described in this Paragraph 8.

9. EXERCISE OF OPTIONS AND ISSUE OF SHARES.

An Option (or any part or installment thereof) shall be exercised by giving written notice to the Company or its designee (in a form acceptable to the Administrator, which may include electronic notice), together with provision for payment of the aggregate exercise price in accordance with this Paragraph for the Shares as to which the Option is being exercised, and upon compliance with any other condition(s) set forth in the Option Agreement. Such notice shall be signed by the person exercising the Option (which signature may be provided electronically in a form acceptable to the Administrator), shall state the number of Shares with respect to which the Option is being exercised and shall contain any representation required by the Plan or the Option Agreement. Payment of the exercise price for the Shares as to which such Option is being exercised shall be made (a) in United States dollars in cash or by check; or (b) at the discretion of the Administrator, through delivery of shares of Common Stock held for at least six months (if required to avoid negative accounting treatment) having a Fair Market Value equal as of the date of the exercise to the aggregate cash exercise price for the number of Shares as to which the Option is being exercised; or (c) at the discretion of the Administrator, by having the Company retain from the Shares otherwise issuable upon exercise of the Option, a number of Shares having a Fair Market Value equal as of the date of exercise to the aggregate exercise price for the number of Shares as to which the Option is being exercised; or (d) at the discretion of the Administrator, in accordance with a cashless exercise program established with a securities brokerage firm, and approved by the Administrator; or (e) at the discretion of the Administrator, by any combination of (a), (b), (c) and (d) above or (f) at the discretion of the Administrator, by payment of such other lawful consideration as the Administrator may determine.

The Company shall then reasonably promptly deliver the Shares as to which such Option was exercised to the Participant (or to the Participant's Survivors, as the case may be). In determining what constitutes "reasonably promptly," it is expressly understood that the issuance and delivery of the Shares may be delayed by the Company in order to comply with any law or regulation (including, without limitation, state securities or "blue sky" laws) which requires the Company to take any action with respect to the Shares prior to their issuance. The Shares shall, upon delivery, be fully paid, non-assessable Shares.

10. PAYMENT IN CONNECTION WITH THE ISSUANCE OF STOCK GRANTS AND STOCK-BASED AWARDS AND ISSUE OF SHARES.

Any Stock Grant or Stock-Based Award requiring payment of a purchase price for the Shares as to which such Stock Grant or Stock-Based Award is being granted shall be made (a) in United States dollars in cash or by check; or (b) at the discretion of the Administrator, through delivery of shares of Common Stock held for at least six months (if required to avoid negative accounting treatment) and having a Fair Market Value equal as of the date of payment to the purchase price of the Stock Grant or Stock-Based Award; or (c) at the discretion of the Administrator, by any combination of (a) and (b) above; or (d) at the discretion of the Administrator, by payment of such other lawful consideration as the Administrator may determine.

The Company shall when required by the applicable Agreement, reasonably promptly deliver the Shares as to which such Stock Grant or Stock-Based Award was made to the Participant (or to the Participant's Survivors, as the case may be), subject to any escrow provision set forth in the applicable Agreement. In determining what constitutes "reasonably promptly," it is expressly understood that the issuance and delivery of the Shares may be delayed by the Company in order to comply with any law or regulation (including, without limitation, state securities or "blue sky" laws) which requires the Company to take any action with respect to the Shares prior to their issuance.

11. RIGHTS AS A STOCKHOLDER.

No Participant to whom a Stock Right has been granted shall have rights as a stockholder with respect to any Shares covered by such Stock Right except after due exercise of an Option or issuance of Shares as set forth in any Agreement, tender of the aggregate exercise or purchase price, if any, for the Shares being purchased and registration of the Shares in the Company's share register in the name of the Participant.

12. ASSIGNABILITY AND TRANSFERABILITY OF STOCK RIGHTS.

By its terms, a Stock Right granted to a Participant shall not be transferable by the Participant other than (i) by will or by the laws of descent and distribution, or (ii) as approved by the Administrator in its discretion and set forth in the applicable Agreement provided that no Stock Right may be transferred by a Participant for value. The designation of a beneficiary of a Stock Right by a Participant, with the prior approval of the Administrator and in such form as the Administrator shall prescribe, shall not be deemed a transfer prohibited by this Paragraph. Except as provided above during the Participant's lifetime a Stock Right shall only be exercisable by or issued to such Participant (or his or her legal representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of any Stock Right or of any rights granted thereunder contrary to the provisions of this Plan, or the levy of any attachment or similar process upon a Stock Right, shall be null and void.

13. EFFECT ON OPTIONS OF TERMINATION OF SERVICE OTHER THAN FOR CAUSE OR DEATH OR DISABILITY.

Except as otherwise provided in a Participant's Option Agreement, in the event of a termination of service (whether as an Employee or Director) with the Company or an Affiliate before the Participant has exercised an Option, the following rules apply:

(a) A Participant who ceases to be an Employee or a Director (for any reason other than termination for Cause, Disability, or death for which events there are special rules in Paragraphs 14, 15, and 16, respectively), may exercise any Option granted to him or her to the extent that the Option is exercisable on the date of such termination of service, but only within such term as the Administrator has designated in a Participant's Option Agreement.

(b) Reserved.

(c) The provisions of this Paragraph, and not the provisions of Paragraph 15 or 16, shall apply to a Participant who subsequently becomes Disabled or dies after the termination of employment or director status; provided, however, in the case of a Participant's Disability or death within three months after the termination of employment or director status, the Participant or the Participant's Survivors may exercise the Option within one year after the date of the Participant's termination of service, but in no event after the date of expiration of the term of the Option.

(d) Notwithstanding anything herein to the contrary, if subsequent to a Participant's termination, but prior to the exercise of an Option, the Administrator determines that, either prior or subsequent to the Participant's termination, the Participant engaged in conduct which would constitute Cause, then such Participant shall forthwith cease to have any right to exercise any Option.

(e) A Participant to whom an Option has been granted under the Plan who is absent from the Company or an Affiliate because of temporary disability (any disability other than a Disability as defined in Paragraph 1 hereof), or who is on leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence alone, to have terminated such Participant's employment or director status with the Company or with an Affiliate, except as the Administrator may otherwise expressly provide.

(f) Except as required by law or as set forth in a Participant's Option Agreement, Options granted under the Plan shall not be affected by any change of a Participant's status within or among the Company and any Affiliates, so long as the Participant continues to be an Employee or a Director.

14. EFFECT ON OPTIONS OF TERMINATION OF SERVICE FOR CAUSE.

Except as otherwise provided in a Participant's Option Agreement, the following rules apply if the Participant's service (whether as an Employee or Director) with the Company or an

Affiliate is terminated for Cause prior to the time that all his or her outstanding Options have been exercised:

(a) All outstanding and unexercised Options as of the time the Participant is notified his or her service is terminated for Cause will immediately be forfeited.

(b) Cause is not limited to events which have occurred prior to a Participant's termination of service, nor is it necessary that the Administrator's finding of Cause occur prior to termination. If the Administrator determines, subsequent to a Participant's termination of service but prior to the exercise of an Option, that either prior or subsequent to the Participant's termination the Participant engaged in conduct which would constitute Cause, then the right to exercise any Option is forfeited.

15. EFFECT ON OPTIONS OF TERMINATION OF SERVICE FOR DISABILITY.

Except as otherwise provided in a Participant's Option Agreement:

(a) A Participant who ceases to be an Employee or Director by reason of Disability may exercise any Option granted to such Participant to the extent that the Option has become exercisable but has not been exercised on the date of the Participant's termination of service due to Disability; and in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of the Participant's termination of service due to Disability of any additional vesting rights that would have accrued on the next vesting date had the Participant not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of the Participant's termination of service due to Disability.

(b) A Disabled Participant may exercise the Option only within the period ending one year after the date of the Participant's termination of service due to Disability, notwithstanding that the Participant might have been able to exercise the Option as to some or all of the Shares on a later date if the Participant had not been terminated due to Disability and had continued to be an Employee or Director or, if earlier, within the originally prescribed term of the Option.

(c) The Administrator shall make the determination both of whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Administrator, the cost of which examination shall be paid for by the Company.

16. EFFECT ON OPTIONS OF DEATH WHILE AN EMPLOYEE OR DIRECTOR.

Except as otherwise provided in a Participant's Option Agreement:

(a) In the event of the death of a Participant while the Participant is an Employee or Director, such Option may be exercised by the Participant's Survivors to the extent that the Option has become exercisable but has not been exercised on the date of death; and in the event rights to

exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting rights that would have accrued on the next vesting date had the Participant not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Participant's date of death.

(b) If the Participant's Survivors wish to exercise the Option, they must take all necessary steps to exercise the Option within one year after the date of death of such Participant, notwithstanding that the decedent might have been able to exercise the Option as to some or all of the Shares on a later date if he or she had not died and had continued to be an Employee or Director or, if earlier, within the originally prescribed term of the Option.

17. EFFECT OF TERMINATION OF SERVICE ON STOCK GRANTS AND STOCK-BASED AWARDS.

In the event of a termination of service (whether as an Employee or Director) with the Company or an Affiliate for any reason before the Participant has accepted a Stock Grant or a Stock-Based Award and paid the purchase price, if required, such grant shall terminate.

For purposes of this Paragraph 17 and Paragraph 18 below, a Participant to whom a Stock Grant or a Stock-Based Award has been issued under the Plan who is absent from work with the Company or with an Affiliate because of temporary disability (any disability other than a Disability as defined in Paragraph 1 hereof), or who is on leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence alone, to have terminated such Participant's employment or director status with the Company or with an Affiliate, except as the Administrator may otherwise expressly provide.

In addition, for purposes of this Paragraph 17 and Paragraph 18 below, any change of employment or other service within or among the Company and any Affiliates shall not be treated as a termination of employment or director status so long as the Participant continues to be an Employee or Director.

18. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE OTHER THAN FOR CAUSE, DEATH OR DISABILITY.

Except as otherwise provided in a Participant's Agreement, in the event of a termination of service for any reason (whether as an Employee or Director), other than termination for Cause, death or Disability for which there are special rules in Paragraphs 19, 20, and 21 below, before all forfeiture provisions or Company rights of repurchase shall have lapsed, then the Company shall have the right to cancel or repurchase that number of Shares subject to a Stock Grant or Stock-Based Award as to which the Company's forfeiture or repurchase rights have not lapsed.

19. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE FOR CAUSE.

Except as otherwise provided in a Participant's Agreement, the following rules apply if the Participant's service (whether as an Employee or Director) with the Company or an Affiliate is terminated for Cause:

(a) All Shares subject to any Stock Grant or Stock-Based Award that remain subject to forfeiture provisions or as to which the Company shall have a repurchase right shall be immediately forfeited to the Company as of the time the Participant is notified his or her service is terminated for Cause.

(b) Cause is not limited to events which have occurred prior to a Participant's termination of service, nor is it necessary that the Administrator's finding of Cause occur prior to termination. If the Administrator determines, subsequent to a Participant's termination of service, that either prior or subsequent to the Participant's termination the Participant engaged in conduct which would constitute Cause, then all Shares subject to any Stock Grant or Stock-Based Award that remained subject to forfeiture provisions or as to which the Company had a repurchase right on the date of termination shall be immediately forfeited to the Company.

20. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE FOR DISABILITY.

Except as otherwise provided in a Participant's Agreement, the following rules apply if a Participant ceases to be an Employee or Director by reason of Disability: to the extent the forfeiture provisions or the Company's rights of repurchase have not lapsed on the date of Disability, they shall be exercisable; provided, however, that in the event such forfeiture provisions or rights of repurchase lapse periodically, such provisions or rights shall lapse to the extent of a pro rata portion of the Shares subject to such Stock Grant or Stock-Based Award through the date of Disability as would have lapsed had the Participant not become Disabled. The proration shall be based upon the number of days accrued prior to the date of Disability.

The Administrator shall make the determination both as to whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Administrator, the cost of which examination shall be paid for by the Company.

21. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF DEATH WHILE AN EMPLOYEE OR DIRECTOR.

Except as otherwise provided in a Participant's Agreement, the following rules apply in the event of the death of a Participant while the Participant is an Employee or Director: to the extent the forfeiture provisions or the Company's rights of repurchase have not lapsed on the date of death, they shall be exercisable; provided, however, that in the event such forfeiture provisions or rights of repurchase lapse periodically, such provisions or rights shall lapse to the extent of a

pro rata portion of the Shares subject to such Stock Grant or Stock-Based Award through the date of death as would have lapsed had the Participant not died. The proration shall be based upon the number of days accrued prior to the Participant's date of death.

22. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue Shares under the Plan unless and until the following conditions have been fulfilled:

(a) The person who receives a Stock Right shall warrant to the Company, prior to the receipt of Shares, that such person is acquiring such Shares for his or her own account, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person acquiring such Shares shall be bound by the provisions of the following legend (or a legend in substantially similar form) which shall be endorsed upon the certificate evidencing the Shares issued pursuant to such exercise or such grant of a Stock Right:

> "The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws."

(b) At the discretion of the Administrator, the Company shall have received an opinion of its counsel that the Shares may be issued in compliance with the Securities Act without registration thereunder.

23. DISSOLUTION OR LIQUIDATION OF THE COMPANY.

Upon the dissolution or liquidation of the Company, all Options granted under this Plan which as of such date shall not have been exercised and all Stock Grants and Stock-Based Awards which have not been accepted, to the extent required under the applicable Agreement, will terminate and become null and void; provided, however, that if the rights of a Participant or a Participant's Survivors have not otherwise terminated and expired, the Participant or the Participant's Survivors will have the right immediately prior to such dissolution or liquidation to exercise or accept any Stock Right to the extent that the Stock Right is exercisable or subject to acceptance as of the date immediately prior to such dissolution or liquidation. Upon the dissolution or liquidation of the Company, any outstanding Stock-Based Awards shall immediately terminate unless otherwise determined by the Administrator or specifically provided in the applicable Agreement.

24. ADJUSTMENTS.

Upon the occurrence of any of the following events, a Participant's rights with respect to any Stock Right granted to him or her hereunder shall be adjusted as hereinafter provided, unless otherwise specifically provided in a Participant's Agreement.

(a) Stock Dividends and Stock Splits. If (i) the shares of Common Stock shall be subdivided or combined into a greater or smaller number of shares or if the Company shall issue any shares of Common Stock as a stock dividend on its outstanding Common Stock, or (ii) additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of Common Stock, each Stock Right and the number of shares of Common Stock deliverable thereunder shall be appropriately increased or decreased proportionately, and appropriate adjustments shall be made including, in the exercise or purchase price per share, to reflect such events. The number of Shares subject to the limitations in Paragraph 3(a) shall also be proportionately adjusted upon the occurrence of such events.

(b) Corporate Transactions. If the Company is to be consolidated with or acquired by another entity in a merger, consolidation, or sale of all or substantially all of the Company's assets other than a transaction to merely change the state of incorporation (a "Corporate Transaction"), the Administrator or the board of directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall, as to outstanding Options, either (i) make appropriate provision for the continuation of such Options by substituting on an equitable basis for the Shares then subject to such Options either the consideration payable with respect to the outstanding shares of Common Stock in connection with the Corporate Transaction or securities of any successor or acquiring entity; or (ii) upon written notice to the Participants, provide that such Options must be exercised (either (A) to the extent then exercisable or, (B) at the discretion of the Administrator, any such Options being made partially or fully exercisable for purposes of this Subparagraph), within a specified number of days of the date of such notice, at the end of which period such Options which have not been exercised shall terminate; or (iii) terminate such Options in exchange for payment of an amount equal to the consideration payable upon consummation of such Corporate Transaction to a holder of the number of shares of Common Stock into which such Option would have been exercisable (either (A) to the extent then exercisable or, (B) at the discretion of the Administrator, any such Options being made partially or fully exercisable for purposes of this Subparagraph) less the aggregate exercise price thereof. For purposes of determining the payments to be made pursuant to Subclause (iii) above, in the case of a Corporate Transaction the consideration for which, in whole or in part, is other than cash, the consideration other than cash shall be valued at the fair value thereof as determined in good faith by the Board of Directors.

Notwithstanding the foregoing, in the event the Corporate Transaction also constitutes a Change of Control, then all Options outstanding on the date of the Corporate Transaction shall vest in full immediately prior to the occurrence of the Change of Control, unless such Options are to be assumed by the acquiring or surviving entity in the Corporate Transaction, in which case they shall retain their original vesting schedule.

With respect to outstanding Stock Grants, the Administrator or the Successor Board, shall make appropriate provision for the continuation of such Stock Grants on the same terms and

conditions by substituting on an equitable basis for the Shares then subject to such Stock Grants either the consideration payable with respect to the outstanding Shares of Common Stock in connection with the Corporate Transaction or securities of any successor or acquiring entity. In lieu of the foregoing, in connection with any Corporate Transaction, the Administrator may provide that, upon consummation of the Corporate Transaction, each outstanding Stock Grant shall be terminated in exchange for payment of an amount equal to the consideration payable upon consummation of such Corporate Transaction to a holder of the number of shares of Common Stock comprising such Stock Grant (to the extent such Stock Grant is no longer subject to any forfeiture or repurchase rights then in effect or, at the discretion of the Administrator, all forfeiture and repurchase rights being waived upon such Corporate Transaction).

In taking any of the actions permitted under this Paragraph 24(b), the Administrator shall not be obligated by the Plan to treat all Stock Rights, all Stock Rights held by a Participant, or all Stock Rights of the same type, identically.

(c) Recapitalization or Reorganization. In the event of a recapitalization or reorganization of the Company other than a Corporate Transaction pursuant to which securities of the Company or of another corporation are issued with respect to the outstanding shares of Common Stock, a Participant upon exercising an Option or accepting a Stock Grant after the recapitalization or reorganization shall be entitled to receive for the price paid upon such exercise or acceptance if any, the number of replacement securities which would have been received if such Option had been exercised or Stock Grant accepted prior to such recapitalization or reorganization.

(d) Adjustments to Stock-Based Awards. Upon the happening of any of the events described in Subparagraphs (a), (b) or (c) above, any outstanding Stock-Based Award shall be appropriately adjusted to reflect the events described in such Subparagraphs. The Administrator or the Successor Board shall determine the specific adjustments to be made under this Paragraph 24, including, but not limited to, the effect of any Corporate Transaction and Change of Control, and subject to Paragraph 4, its determination shall be conclusive.

(e) Modification of Options. Notwithstanding the foregoing, any adjustments made pursuant to Subparagraph (a), (b) or (c) above with respect to Options shall be made only after the Administrator determines whether such adjustments would cause any adverse tax consequences for the holders of Options, including, but not limited to, pursuant to Section 409A of the Code. If the Administrator determines that such adjustments made with respect to Options would constitute a modification or other adverse tax consequence, it may refrain from making such adjustments, unless the holder of an Option specifically agrees in writing that such adjustment be made and such writing indicates that the holder has full knowledge of the consequences of such "modification" on his or her income tax treatment with respect to the Option.

25. ISSUANCES OF SECURITIES.

Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares subject to Stock Rights. Except as expressly provided herein, no adjustments shall be made for dividends paid in cash or

in property (including without limitation, securities) of the Company prior to any issuance of Shares pursuant to a Stock Right.

26. FRACTIONAL SHARES.

No fractional shares shall be issued under the Plan and the person exercising a Stock Right shall receive from the Company cash in lieu of such fractional shares equal to the Fair Market Value thereof.

27. RESERVED.

28. WITHHOLDING.

In the event that any federal, state, or local income taxes, employment taxes, Federal Insurance Contributions Act ("F.I.C.A.") withholdings or other amounts are required by applicable law or governmental regulation to be withheld from the Participant's salary, wages or other remuneration in connection with the issuance of a Stock Right or Shares under the Plan or for any other reason required by law, the Company may withhold from the Participant's compensation, if any, or may require that the Participant advance in cash to the Company, or to any Affiliate of the Company which employs or employed the Participant, the statutory minimum amount of such withholdings unless a different withholding arrangement, including the use of shares of the Company's Common Stock or a promissory note, is authorized by the Administrator (and permitted by law). For purposes hereof, the fair market value of the shares withheld for purposes of payroll withholding shall be determined in the manner set forth under the definition of Fair Market Value provided in Paragraph 1 above, as of the most recent practicable date prior to the date of exercise. If the Fair Market Value of the shares withheld is less than the amount of payroll withholdings required, the Participant may be required to advance the difference in cash to the Company or the Affiliate employer. The Administrator in its discretion may condition the exercise of an Option for less than the then Fair Market Value on the Participant's payment of such additional withholding.

29. RESERVED.

30. TERMINATION OF THE PLAN.

The Plan will terminate on September 12, 2027. The Plan may be terminated at an earlier date by vote of the Board of Directors of the Company; provided, however, that any such earlier termination shall not affect any Agreements executed prior to the effective date of such termination. Termination of the Plan shall not affect any Stock Rights theretofore granted.

31. AMENDMENT OF THE PLAN AND AGREEMENTS.

The Plan may be amended by the Administrator. Other than as set forth in Paragraph 24 of the Plan, the Administrator may not without stockholder approval reduce the exercise price of an Option or cancel any outstanding Option in exchange for a replacement option having a lower exercise price, any Stock Grant, any other Stock-Based Award or for cash. In addition, the Administrator not take any other action that is considered a direct or indirect "repricing" for purposes of the stockholder approval rules of the applicable securities exchange or inter-dealer quotation system on which the Shares are listed, including any other action that is treated as a repricing under generally accepted accounting principles. Any modification or amendment of the Plan shall not, without the consent of a Participant, adversely affect his or her rights under a Stock Right previously granted to him or her. With the consent of the Participant affected, the Administrator may amend outstanding Agreements in a manner which may be adverse to the Participant but which is not inconsistent with the Plan. In the discretion of the Administrator, outstanding Agreements may be amended by the Administrator in a manner which is not adverse to the Participant. Nothing in this Paragraph 31 shall limit the Administrator's authority to take any action permitted pursuant to Paragraph 24.

32. EMPLOYMENT OR OTHER RELATIONSHIP.

Nothing in this Plan or any Agreement shall be deemed to prevent the Company or an Affiliate from terminating the employment or director status of a Participant, nor to prevent a Participant from terminating his or her own employment or director status or to give any Participant a right to be retained in employment or other service by the Company or any Affiliate for any period of time.

33. SECTION 409A.

If a Participant is a "specified employee" as defined in Section 409A of the Code (and as applied according to procedures of the Company and its Affiliates) as of his separation from service, to the extent any payment under this Plan or pursuant to the grant of a Stock-Based Award constitutes deferred compensation (after taking into account any applicable exemptions from Section 409A of the Code), and to the extent required by Section 409A of the Code, no payments due under this Plan or pursuant to a Stock-Based Award may be made until the earlier of: (i) the first day of the seventh month following the Participant's separation from service, or (ii) the Participant's date of death; provided, however, that any payments delayed during this six-month period shall be paid in the aggregate in a lump sum, without interest, on the first day of the seventh month following the Participant's separation from service.

The Administrator shall administer the Plan with a view toward ensuring that Stock Rights under the Plan that are subject to Section 409A of the Code comply with the requirements thereof and that Options under the Plan be exempt from the requirements of Section 409A of the Code, but neither the Administrator nor any member of the Board, nor the Company nor any of its Affiliates, nor any other person acting hereunder on behalf of the Company, the Administrator or the Board shall be liable to a Participant or any Survivor by reason of the acceleration of any

income, or the imposition of any additional tax or penalty, with respect to a Stock Right, whether by reason of a failure to satisfy the requirements of Section 409A of the Code or otherwise.

34. INDEMNITY.

Neither the Board nor the Administrator, nor any members of either, nor any employees of the Company or any parent, subsidiary, or other Affiliate, shall be liable for any act, omission, interpretation, construction or determination made in good faith in connection with their responsibilities with respect to this Plan, and the Company hereby agrees to indemnify the members of the Board, the members of the Committee, and the employees of the Company and its parent or subsidiaries in respect of any claim, loss, damage, or expense (including reasonable counsel fees) arising from any such act, omission, interpretation, construction or determination to the full extent permitted by law.

35. CLAWBACK.

Notwithstanding anything to the contrary contained in this Plan, the Company may recover from a Participant any compensation received from any Stock Right (whether or not settled) or cause a Participant to forfeit any Stock Right (whether or not vested) in the event that the Company's Clawback Policy as then in effect, if any, is triggered.

36. GOVERNING LAW.

This Plan shall be construed and enforced in accordance with the laws of the State of Delaware.

Exhibit 31.1

CERTIFICATIONS UNDER SECTION 302

I, Ronald H.W. Cooper, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Albireo Pharma, 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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) 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 14, 2017

/s/ Ronald H.W. Cooper
Ronald H.W. Cooper
President and Chief Executive Officer
(principal executive officer)

Exhibit 31.2

CERTIFICATIONS UNDER SECTION 302

I, Thomas A. Shea, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Albireo Pharma, 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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) 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 14, 2017

/s/ Thomas A. Shea
Thomas A. Shea
Chief Financial Officer and Treasurer (principal financial officer and principal accounting officer)

Exhibit 32.1

CERTIFICATIONS UNDER SECTION 906

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Albireo Pharma, Inc., a Delaware corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

The Quarterly Report for the quarter ended September 30, 2017 (the "Form 10-Q") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 14, 2017

/s/ Ronald H.W. Cooper
Ronald H.W. Cooper
President and Chief Executive Officer
(principal executive officer)

Dated: November 14, 2017

/s/ Thomas A. Shea
Thomas A. Shea
Chief Financial Officer and Treasurer
(principal financial officer and principal accounting officer)