

As filed with the Securities and Exchange Commission on August 6, 2020

Registration No. 333-

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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, D.C. 20549

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**FORM S-3**

REGISTRATION STATEMENT  
UNDER THE SECURITIES ACT OF 1933

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**Albireo Pharma, Inc.**

(Exact name of registrant as specified in its charter)

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**Delaware**

(State or other jurisdiction of  
Incorporation or organization)

**90-0136863**

(IRS employer  
identification number)

**10 Post Office Square, Suite 1000  
Boston, Massachusetts 02109  
(857) 254-5555**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Ronald H.W. Cooper  
President and Chief Executive Officer  
Albireo Pharma, Inc.**

**10 Post Office Square, Suite 1000  
Boston, Massachusetts 02109  
(857) 254-5555**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

**Copies to:**

**Megan N. Gates, Esq.  
John P. Condon, Esq.  
Mintz, Levin, Cohn, Ferris, Glovsky and  
Popeo, P.C.  
One Financial Center  
Boston, Massachusetts 02111  
(617) 542-6000**

**Jason G. Duncan, Esq.  
Chief Legal Officer, General Counsel and  
Secretary  
Albireo Pharma, Inc.  
10 Post Office Square, Suite 1000  
Boston, Massachusetts 02109  
(857) 254-5555**

**Approximate date of commencement of proposed sale to the public:  
From time to time or at one time after the effective date of this registration statement.**

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this form are being offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

#### CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered <sup>(1)</sup>	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common stock, \$0.01 par value	5,311 <sup>(2)</sup>	\$18.83	\$100,006.13	\$12.98
<b>Total:</b>	5,311		\$100,006.13	\$12.98

(1) This Registration Statement also relates to an indeterminate number of shares of common stock, \$0.01 par value (“Common Stock”) of Albireo Pharma, Inc. (the “Registrant”) that may be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions in accordance with Rule 416 under the Securities Act of 1933, as amended (the “Securities Act”).

(2) Represents the maximum number of shares of Common Stock issuable upon exercise of a warrant to purchase Common Stock, which was issued to the selling stockholder in a private placement.

**The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

The information in this prospectus is not complete and may be changed without notice. The selling stockholder may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and the selling stockholder named in this prospectus is not soliciting offers to buy these securities in any state or other jurisdiction where the offer or sale of these securities is not permitted.

Subject to completion; dated August 6, 2020

PRELIMINARY PROSPECTUS



**ALBIREO PHARMA, INC.**

**5,311 Shares of Common Stock**

This prospectus relates to the offer and sale by the selling stockholder identified in this prospectus, and any of its pledgees, donees, transferees, or other successors-in-interest, of up to 5,311 shares of common stock of Albireo Pharma, Inc. ("Common Stock") that are issuable pursuant to the terms of a warrant dated June 8, 2020 ("Warrant") issued to Hercules Capital, Inc., as administrative agent and collateral agent for the benefit of certain lenders (the "Lenders") who have agreed to make us certain term loan advances, as further described in this prospectus. The Warrant is exercisable for shares of Common Stock at an exercise price of \$18.83 per share.

We are filing the registration statement of which this prospectus is a part at this time to fulfill a contractual obligation to the Lenders to do so, as further described in this prospectus. We will not receive any of the proceeds from the sale of the shares of Common Stock by the selling stockholder.

The selling stockholder and its pledgees, donees, transferees, or other successors-in-interest may offer the shares of Common Stock in one or more transactions at fixed prices, at prevailing market prices at the time of sale, at varying prices determined at the time of sale, at negotiated prices, or in trading markets for our Common Stock. Additional information on the selling stockholder, and the times and manner in which it may offer and sell shares of our Common Stock under this prospectus, is provided under "Selling Stockholder" and "Plan of Distribution" in this prospectus.

Our Common Stock is quoted on The Nasdaq Capital Market under the symbol "ALBO". On August 5, 2020, the last reported sale price of our Common Stock was \$24.18 per share.

**Investing in our Common Stock involves certain risks. See "Risk Factors" beginning on page 4 of this prospectus for the risks that you should consider. You should read this entire prospectus carefully before you make your investment decision.**

**NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.**

The date of this prospectus is August , 2020

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## ABOUT THIS PROSPECTUS

*Unless the context otherwise requires, “the Company,” “we,” “us,” “our” and similar terms refer to Albireo Pharma, Inc. and its direct and indirect subsidiaries.*

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. For further information, please see the section of this prospectus entitled “Where You Can Find More Information.” The selling stockholder is not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted.

You should not assume that the information appearing in this prospectus is accurate as of any date other than the date on the front cover of this prospectus, regardless of the time of delivery of this prospectus or any sale of a security. Our business, financial condition, results of operations, and prospects may have changed since those dates.

This prospectus contains trademarks, tradenames, service marks, and service names of the Company.

## PROSPECTUS SUMMARY

*The following is a summary of what we believe to be the most important aspects of our business and the offering of our securities under this prospectus. We urge you to read this entire prospectus, including the more detailed consolidated financial statements, notes to the consolidated financial statements and other information incorporated by reference from our other filings with the SEC. Investing in our securities involves risks. Please carefully consider the risk factors set forth in our most recent annual and quarterly filings with the SEC, as well as other information in this prospectus and the documents incorporated by reference herein or therein, before purchasing our securities. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities.*

### **About Albireo Pharma, Inc.**

We are a biopharmaceutical company focused on the development and commercialization of novel bile acid modulators to treat orphan pediatric liver diseases and other liver or gastrointestinal diseases and disorders. The initial target indication for our lead product candidate, odevixibat (formerly known as A4250), is in progressive familial intrahepatic cholestasis, or PFIC, a rare, life-threatening genetic disorder affecting young children for which there is currently no approved drug treatment. The last patient's last visit is complete in the Phase 3 trial in PFIC, and we expect topline results in the coming weeks. We are also pursuing the development of odevixibat in biliary atresia and in Alagille syndrome, or ALGS, each of which is a rare, life threatening disease that affects the liver and for which there is no approved pharmacologic treatment option. We initiated a pivotal clinical trial of odevixibat in biliary atresia, the BOLD trial, in the first half of 2020, and have enrolled the first patients in the trial. We plan to initiate a pivotal trial in ALGS by the end of 2020. Our most advanced product candidate in addition to odevixibat is elobixibat, which is approved in Japan for the treatment of chronic constipation and for which we are conducting a Phase 2 clinical trial as a treatment for nonalcoholic fatty liver disease, or NAFLD, and nonalcoholic steatohepatitis, or NASH. The last patient's last visit is complete in the Phase 2 trial, and we expect topline results in the coming weeks, ahead of the topline results for the odevixibat Phase 3 trial in PFIC. We are exploring additional clinical development of our product candidate A3384 based on an evaluation of its patent coverage and our overall portfolio. We also have a preclinical program in adult liver disease, and expect to complete investigational new drug enabling studies in a lead preclinical candidate this year.

### **Additional Information**

For additional information related to our business and operations, please refer to the reports incorporated herein by reference, including the [Annual Report on Form 10-K of Albireo Pharma, Inc. for the year ended December 31, 2019](#), as described under the caption "Incorporation of Documents by Reference" on page 14 of this prospectus.

### **Our Corporate Information**

Prior to November 3, 2016, we were a specialty biopharmaceutical company known as Bidel Inc. that historically had been focused on the development and commercialization of innovative treatments for diabetes. Bidel was originally incorporated in the state of Delaware in December 2003 under the name "Global Positioning Group, Ltd." and subsequently changed its name to "Bidel Inc." Albireo Limited was formed in connection with a spinout transaction from AstraZeneca AB in 2008 in which AstraZeneca assigned to Albireo AB all of its rights in and to its portfolio of IBAT inhibitors, including elobixibat and A4250, as well as other preclinical assets.

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. In the Transaction, each holder of Albireo Limited shares or notes convertible into Albireo Limited shares sold their shares of Albireo Limited for newly issued shares of our common stock. As a result, Albireo Limited became a wholly owned subsidiary of Bidel, Bidel's corporate name was changed 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 other liver or gastrointestinal diseases and disorders.

Our corporate headquarters are located at 10 Post Office Square, Suite 1000, Boston, Massachusetts 02109 and our telephone number is (857) 254-5555. We also have an office in Gothenburg, Sweden. We maintain a website at [www.albireopharma.com](http://www.albireopharma.com), to which we regularly post copies of our press releases as well as additional information about us. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports filed or furnished pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") are available free of charge through the investor relations page of our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC.

All brand names or trademarks appearing in this prospectus are the property of their respective holders. Use or display by us of other parties' trademarks, trade dress, or products in this prospectus is not intended to, and does not, imply a relationship with, or endorsements or sponsorship of, us by the trademark or trade dress owners.

<b>The Offering</b>	
Common Stock offered	Up to 5,311 shares (representing the maximum shares issuable pursuant to the terms of the Warrant)
Common Stock outstanding before this offering	14,990,711 shares as of August 5, 2020
Common Stock outstanding after this offering	14,996,022 shares (assuming that the full amount of the registered securities are issued pursuant to the terms of the Warrant)
Use of proceeds	We will not receive any proceeds from the sale of shares of Common Stock in this offering, but we will receive the exercise price of the Warrant if the Warrant is exercised (unless the Warrant is exercised by means of a “cashless exercise,” in which case we will not receive any proceeds from that exercise). See the section entitled “Use of Proceeds.”
Nasdaq Capital Market symbol	“ALBO”
Risk factors	You should consider carefully the information set forth in the section entitled “Risk Factors,” beginning on page 3 of this prospectus, in deciding whether or not to invest in our Common Stock.
Plan of distribution	The selling stockholder and its pledgees, donees, transferees, or other successors in interest may offer the shares of Common Stock in one or more transactions at fixed prices, at prevailing market prices at the time of sale, at varying prices determined at the time of sale, at negotiated prices, or in trading markets for our Common Stock. See the section entitled “Plan of Distribution” beginning on page 12 of this prospectus for a complete description of the manner in which the shares registered hereby may be distributed.

## RISK FACTORS

*Investing in our securities involves significant risk. Prior to making a decision about investing in our securities, you should carefully consider the risks, uncertainties and assumptions discussed under the heading "Risk Factors" included in our most recent annual report on Form 10-K, as revised or supplemented by our subsequent quarterly reports on Form 10-Q or our subsequent current reports on Form 8-K that we have filed with the SEC, all of which are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.*

### **Risks Related to this Offering**

***The terms of our loan and security agreement with Hercules Capital require us to meet certain operating covenants and place restrictions on our operating and financial flexibility. If we raise additional capital through debt financing, the terms of any new debt could further restrict our ability to operate our business.***

On June 8, 2020, we entered into a loan and security agreement, or the Loan Agreement, with Hercules Capital, Inc., in its capacity as administrative and collateral agent for itself and the other Lenders party to the Loan Agreement. The loan advanced under the Loan Agreement, or the Term Loan, is secured by a security interest covering our assets, other than our intellectual property and other customary collateral exclusions. The Loan Agreement contains customary affirmative and negative covenants and events of default. Affirmative covenants include, among others, covenants requiring us to maintain our legal existence and comply with all applicable laws, deliver certain financial reports, maintain a minimum cash balance, and maintain insurance coverage. Negative covenants include, among others, covenants restricting us from transferring any part of our business or intellectual property, incurring additional indebtedness, engaging in mergers or acquisitions, repurchasing shares, paying dividends or making other distributions, making investments, and creating other liens on our assets, including our intellectual property, in each case subject to customary exceptions. If we raise any additional debt financing, the terms of such additional debt could further restrict our operating and financial flexibility. These restrictions may include, among other things, limitations on borrowing and specific restrictions on the use of our assets, as well as prohibitions on our ability to create liens, pay dividends, redeem capital stock or make investments. If we default under the terms of the Loan Agreement or any future debt facility, the Lenders may accelerate all of our repayment obligations and take control of our pledged assets, potentially requiring us to renegotiate our agreement on terms less favorable to us or to immediately cease operations. Further, if we are liquidated, the Lenders' right to repayment would be senior to the rights of the holders of our Common Stock. The Lenders could declare a default upon the occurrence of any event that it interprets as a material adverse effect as defined under the Loan Agreement. Any declaration by the Lenders of an event of default could significantly harm our business and prospects and could cause the price of our common stock to decline. If we raise any additional debt financing, the terms of such additional debt could further restrict our operating and financial flexibility.

***Repayment of the Term Loan will require a significant amount of cash, and we may not have sufficient cash flow from our business to make payments on our indebtedness.***

Our ability to pay the principal of and/or interest on the Term Loan depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flow from operations in the future sufficient to service the Term Loan or other future indebtedness and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt and implement one or more alternatives, such as selling assets, restructuring indebtedness or obtaining additional debt financing or equity financing on terms that may be onerous or highly dilutive. Our ability to refinance the Term Loan or other future indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations, including the Term Loan.

***The issuance of shares of Common Stock upon exercise of the Warrant and any future warrants that we may issue could substantially dilute your investment and could impede our ability to obtain additional financing.***

The Warrant is exercisable for shares of our Common Stock and gives the holder an opportunity to profit from a rise in the market price of our Common Stock such that conversion or exercise thereof could result in dilution of the equity interests of our shareholders. We have no control over whether the holder will exercise its right to exercise the Warrant. While the Warrant is exercisable at a fixed price of \$18.83 per share, we cannot predict the market price of our Common Stock at any future date, and therefore, cannot predict whether the Warrant will be exercised. The existence and potentially dilutive impact of the Warrant may prevent us from obtaining additional financing in the future on acceptable terms, or at all.

### SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference in this prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of 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, number, scope, cost, duration or results of our development activities, nonclinical studies and clinical trials of odevixibat (formerly known as 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 Phase 2 trial of elobixibat in patients with NAFLD and NASH; PEDFIC 1, our Phase 3 clinical trial of odevixibat in patients with PFIC; BOLD, our pivotal clinical trial of odevixibat in patients with biliary atresia or our planned pivotal trial of odevixibat in Alagille syndrome, or ALGS) for submission or approval of any regulatory filing, access to the Expanded Access Program (EAP) for odevixibat, or meetings 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., or EA Pharma, may make to us or any other action or decision that EA Pharma may make concerning elobixibat or our business relationship;
- the potential impacts of the COVID-19 pandemic on our business;
- 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; or
- our strategies, prospects, plans, expectations, forecasts 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 or incorporated by reference in this prospectus, we caution you that these statements are based on our estimates and 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, experience or achievements to differ materially from those expressed or implied by any forward-looking statement. Actual results, level of activity, performance, experience or achievements may differ materially from those expressed or implied by any forward-looking statement as a result of various important factors, including our critical accounting policies and risks and uncertainties relating, among other things, to:

- the design, size, duration and endpoints for, and results from, PEDFIC 1, our Phase 3 clinical trial of odevixibat in patients with PFIC or our related extension study, or any other trials that will be required to obtain marketing approval for odevixibat to treat patients with PFIC, biliary atresia or any other pediatric cholestatic liver disease, for elobixibat to treat NASH, or for A3384 as a potential treatment for gastrointestinal diseases or disorders;
- whether favorable findings from clinical trials of odevixibat to date, including findings in indications other than PFIC, will be predictive of results from future clinical trials, including the trials

comprising our Phase 3 PFIC program for odevixibat, pivotal trial of odevixibat in biliary atresia and planned pivotal trial of odevixibat in ALGS;

- 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 treatment duration of the double blind Phase 3 trial in patients with PFIC are sufficient, even if such primary endpoint is met with statistical significance, to support approval of odevixibat in the United States or the European Union, to treat PFIC, a symptom of PFIC, a specific PFIC subtype(s) or otherwise;
- the outcome and interpretation by regulatory authorities of an 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 Phase 3 PFIC and biliary atresia programs or the planned pivotal trial in ALGS for odevixibat, and the outcomes of such trials;
- delays or other challenges in the recruitment of patients for the pivotal trial of odevixibat in biliary atresia and the planned pivotal trial of odevixibat in ALGS;
- whether odevixibat will meet the criteria to receive a rare pediatric disease priority review voucher from the FDA when applicable, whether a rare pediatric disease priority review voucher that we may receive in the future for odevixibat, if any, will be valuable to us, and, if necessary, whether the rare pediatric disease priority review voucher program will be renewed beyond 2020;
- the COVID-19 pandemic, which may negatively impact the conduct of, and the timing of initiation, enrollment, completion and reporting with respect to, our clinical trials; negatively impact the supply of drug product for our clinical and preclinical programs; and/or result in other adverse impacts on our business;
- 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 odevixibat, 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 odevixibat, 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 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 commercialization of elobixibat in Japan and the development and commercialization of elobixibat in EA Pharma's 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 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;
- whether we are able to maintain compliance with the terms and conditions of our loan and security agreement with Hercules Capital, Inc.;
- our ability to expand and protect our intellectual property estate;
- regulatory developments in the United States and other countries;
- the effectiveness of our internal control over financial reporting;
- the performance of our third-party suppliers, manufacturers and contract research organizations and our ability to obtain alternative sources of raw materials;
- our ability to attract and retain key personnel; and
- our ability to comply with regulatory requirements relating to our business, and the costs of compliance with those requirements, including those on data privacy and security.

These and other risks and uncertainties are described in greater detail under the caption “Risk Factors” in this prospectus, as updated and supplemented by the discussion of risks and uncertainties under “Risk Factors” contained in any supplements to this prospectus, or in the sections entitled “Business,” “Risk Factors,” “Cautionary Note Regarding Forward-Looking Statements” or “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our most recent annual report on Form 10-K, as revised or supplemented by our subsequent quarterly reports on Form 10-Q or our subsequent current reports on Form 8-K, as well as any amendments thereto, as filed with the SEC and which are incorporated herein by reference. As a result of the risks and uncertainties, the results or events indicated by the forward-looking statements contained in this prospectus or in any document incorporated herein by reference may not occur.

Investors are cautioned not to place undue reliance on any forward-looking statement. Each forward-looking statement represents our views only as of the date of this prospectus or the date of the document incorporated by reference in this prospectus 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. We expressly disclaim any obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. All subsequent forward-looking statements attributable to us or to any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

## DESCRIPTION OF THE TRANSACTION

### Private Placement of Warrant

*Loan Agreement.* On June 8, 2020, we and Albireo AB, our wholly-owned subsidiary, as borrowers, or collectively, the Borrower, entered into a Loan and Security Agreement with the several banks and other financial institutions or entities from time to time parties to the Loan and Security Agreement, as lenders, or collectively referred to as the Lender, and Hercules Capital, Inc., in its capacity as administrative agent and collateral agent for itself and Lender (in such capacity, the “Agent” or “Hercules”).

*Amount.* The Loan and Security Agreement provides for term loans in an aggregate principal amount of up to \$80.0 million to be delivered in multiple tranches, or the Term Loans. The tranches consist of (i) a term loan advance to Borrower in an aggregate principal amount of up to \$15.0 million, of which (A) Albireo AB agreed to borrow an aggregate principal amount of \$10.0 million on the date on which all conditions to the funding of the Term Loans by the Lender were met, or the Closing Date, and (B) a right of the Borrower to request that the Lender make an additional term loan advance to us and/or Albireo AB in an aggregate principal amount of \$5.0 million prior to December 15, 2020, (ii) subject to the achievement of certain initial performance milestones, or Performance Milestone I, a right of the Borrower to request that the Lender make additional term loan advances to us and/or Albireo AB in an aggregate principal amount of up to \$20.0 million from January 1, 2021 through December 15, 2021 in minimum increments of \$10.0 million, and (iii) subject to the Lender’s investment committee’s sole discretion, a right of the Borrower to request that the Lender make additional term loan advances to us and/or Albireo AB in an aggregate principal amount of up to \$45.0 million through March 31, 2022 in minimum increments of \$5.0 million. The Borrower intends to use the proceeds of the Term Loans for working capital and general corporate purposes.

*Maturity.* The Term Loans mature on January 1, 2024, which is extendable to June 1, 2024 upon achievement of Performance Milestone I, or the Maturity Date.

*Interest Rate and Amortization.* The principal balance of the Term Loans bears interest at an annual rate equal to the greater of (i) the sum of (a) 9.15% plus (b) the prime rate as reported in *The Wall Street Journal* minus 3.25%, and (ii) 9.15%. Borrowings under the Loan and Security Agreement are repayable in monthly interest-only payments through January 1, 2022 and extendable to (i) July 1, 2022 upon achievement of Performance Milestone I and (ii) July 1, 2023 upon achievement of certain additional performance milestones. After the interest-only payment period, borrowings under the Loan and Security Agreement are repayable in equal monthly payments of principal and accrued interest until the Maturity Date.

*Prepayment Premium.* The Borrower may, at its option upon at least seven business days’ prior notice to the Agent, prepay all, but not less than all, or a portion (in minimum increments of \$5.0 million), of the then outstanding principal balance and all accrued and unpaid interest on the Term Loans, subject to a prepayment premium equal to (i) 3.0% of the principal amount outstanding if the prepayment occurs during the first six months following the Closing Date, (ii) 2.0% of the principal amount outstanding if the prepayment occurs after the first six months following the Closing Date, but on or prior to 24 months following the Closing Date, and (iii) 1.0% of the principal amount outstanding at any time thereafter but prior to the Maturity Date.

*Security.* The Borrower’s obligations are secured by a security interest in all of Borrower’s right, title, and interest in, to and under all of our property and other assets, and certain equity interests and accounts of Albireo AB, subject to customary exceptions including the Borrower’s intellectual property.

*Covenants; Representations and Warranties; Other Provisions.* The Loan and Security Agreement contains customary representations, warranties and covenants, including covenants by the Borrower limiting additional indebtedness, liens (including a negative pledge on intellectual property and other assets), guaranties, mergers and consolidations, substantial asset sales, investments and loans, certain corporate changes, transactions with affiliates and fundamental changes.

*Default Provisions.* The Loan and Security Agreement provides for events of default customary for term loans of this type, including but not limited to non-payment, breaches or defaults in the performance of covenants, insolvency, bankruptcy and the occurrence of a material adverse effect on the Borrower. After

the occurrence of an event of default, Agent may (i) accelerate payment of all obligations, impose a prepayment charge, and terminate the Lender's commitments under the Loan and Security Agreement, (ii) sign and file in Borrower's name any notices, assignment or agreements necessary to perfect payment, or (iii) notify any of Borrower's account debtors to make payment directly to Agent.

#### *Warrants*

In connection with the entry into the Loan and Security Agreement, we will issue Warrants to Hercules to purchase a number of shares of our Common Stock equal to 1% of the aggregate amount of the Term Loans that are funded, as such amounts are funded. On the Closing Date, we issued Hercules a Warrant for 5,311 shares of Common Stock. The Warrants will be exercisable for a period of seven years from the date of the issuance of each Warrant at a per-share exercise price equal to \$18.83, subject to certain adjustments as specified in the Warrants. In addition, we have granted to the holders of the Warrants certain registration rights. Specifically, we have agreed to use commercially reasonable efforts to (i) file registration statements with the Securities and Exchange Commission within 60 days following the date of the issuance of each Warrant for purposes of registering the shares of Common Stock issuable upon exercise of the Warrants for resale by Hercules, and (ii) cause the registration statement to be declared effective as soon as practicable after filing, and in any event no later than 180 days after the date of the issuance of each Warrant.

The issuance of the Warrants by us to Hercules and the issuance of the shares of Common Stock issuable upon exercise of the Warrants will be made in reliance on the exemption from registration contained in Section 4(a)(2) of the Securities Act of 1933, as amended, or the Securities Act, and Rule 506 of Regulation D thereunder, because the offer and sale of such securities does not involve a "public offering" as defined in Section 4(a)(2) of the Securities Act, and other applicable requirements are met.

### **USE OF PROCEEDS**

We will not receive any proceeds from the sale of the shares of Common Stock by the selling stockholder. The exercise price of the outstanding Warrant issued in the private placement described above is \$18.83 per share. If the Warrant is exercised in full for cash, we would receive proceeds of \$100,006.13, which we would use for working capital and general corporate purposes. If the Warrantholder elects to exercise the Warrant by means of a “cashless exercise,” as is allowed pursuant to the terms of the Warrant, we will not receive any proceeds upon exercise of the Warrant.

The selling stockholder will pay all underwriting discounts, selling commissions and expenses incurred by it for brokerage, accounting, tax or legal services or any other expenses incurred by the selling stockholder in connection with the sale of the shares, if any. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees, Nasdaq listing fees and fees and expenses of our counsel and our accountants.

## SELLING STOCKHOLDER

The shares of Common Stock being offered for resale by the selling stockholder pursuant to the Form S-3 of which this prospectus forms a part are the shares of Common Stock issuable to the selling stockholder upon exercise of the Warrant. For additional information regarding the issuance of the Warrant, see the description of the transaction above. We are registering the shares of Common Stock in order to permit the selling stockholder to offer the shares for resale from time to time. Except for entering into the Term Loan and holding the Warrant issued pursuant to the Loan Agreement and as described below, the selling stockholder has not had any material relationship with us within the past three years.

The table below lists the selling stockholder and other information regarding the beneficial ownership of shares of Common Stock by the selling stockholder. The second column lists the number of shares of Common Stock beneficially owned by the selling stockholder, based on its entitlement to shares underlying the Warrant, as of August 5, 2020, assuming full exercise of the Warrant on that date. The third column lists the shares of Common Stock being offered by this prospectus by the selling stockholder and does not take into account any limitations on exercise of the Warrant. The fourth column lists the shares of Common Stock held by the selling stockholder after completion of this offering, and assumes the full exercise of the Warrant held by or for the benefit of the selling stockholder, without regard to any limitations on exercise, and that the selling stockholder subsequently sells all of the shares covered by this prospectus. The information presented regarding the selling stockholder is based, in part, on information the selling stockholder provided to us in writing specifically for use in this prospectus.

The selling stockholder may sell all, some or none of its shares in this offering. See “Plan of Distribution.”

In addition to the assumptions described above, beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power over securities. To our knowledge, unless otherwise indicated, the persons named in the table below have sole voting and investment power with respect to their shares of Common Stock. The percentage of beneficial ownership is based on 14,990,711 shares of our Common Stock outstanding as of August 5, 2020.

Name of Selling Stockholder	Number of Shares of Common Stock Owned Prior to Offering	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus	Number of Shares of Common Stock Owned After Offering	Percentage of Shares of Common Stock Owned After Offering (to the extent greater than 1%)
Hercules Capital, Inc. <sup>(1)</sup>	5,311 <sup>(2)</sup>	5,311	—	—

\* Denotes less than 1%.

(1) A Maryland corporation, with a business address at 400 Hamilton Avenue, Suite 310, Palo Alto, CA 94301.

(2) Consists of 5,311 shares of our Common Stock issuable upon exercise of the Warrant.

## PLAN OF DISTRIBUTION

We are registering the shares of Common Stock issuable upon exercise of the Warrant to permit the resale of these shares of Common Stock by the selling stockholder from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholder of the shares of Common Stock.

The selling stockholder, which, as used herein, includes donees, pledgees, transferees or other successors in interest selling shares of Common Stock or interests in shares of Common Stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution, or other transfer, may, from time to time, sell, transfer, or otherwise dispose of any or all of their shares of Common Stock or interests in shares of Common Stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholder may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholder to sell a specified number of such shares at a stipulated price per share;
- one or more underwritten offerings on a firm commitment or best efforts basis;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

The selling stockholder may, from time to time, pledge or grant a security interest in some or all of the shares of the Common Stock owned by it and, if it defaults in the performance of its secured obligations, the pledgees or secured parties may offer and sell the shares of Common Stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act, amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholder also may transfer the shares of Common Stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of Common Stock or interests therein, the selling stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the Common Stock in the course of hedging the positions they assume. The selling stockholder may also sell shares of Common Stock short and deliver these securities to close out their short positions, or loan or pledge the Common Stock to broker-dealers that in turn may sell these securities. The selling stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholder from the sale of the Common Stock offered by it will be the purchase price of the Common Stock less discounts or commissions, if any. The selling stockholder reserves the right to accept and, together with its agents from time to time, to reject, in whole or in part, any proposed purchase of Common Stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

The selling stockholder also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act, if available, or pursuant to other available exemptions from the registration requirements under the Securities Act, rather than this prospectus, provided that they meet the criteria and conform to the requirements of that rule. Registration of the shares of Common Stock covered by this prospectus does not mean that any shares of the Common Stock will be offered or sold.

The selling stockholder may engage in at-the-market offerings and offer the Common Stock into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. Underwriters, dealers and agents who participate in any at-the-market-offerings will be described in a prospectus supplement relating thereto.

The selling stockholder and any underwriters, broker-dealers or agents that participate in the sale of the Common Stock or interests therein may be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our Common Stock to be sold, the names of the selling stockholder, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, and any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the Common Stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the Common Stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

If at the time of any offering made under this prospectus, a member of FINRA participating in the offering has a “conflict of interest” as defined in FINRA Rule 5121 (“Rule 5121”), that offering will be conducted in accordance with the relevant provisions of Rule 5121.

We have advised the selling stockholder that the anti-manipulation rules of Regulation M promulgated under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholder and its affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholder for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholder may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

## LEGAL MATTERS

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts, will pass upon the validity of the securities to be offered by this prospectus.

## EXPERTS

The consolidated financial statements of Albireo Pharma, Inc. appearing in Albireo Pharma, Inc.'s [Annual Report \(Form 10-K\) for the year ended December 31, 2019](#), and the effectiveness of Albireo Pharma, Inc.'s internal control over financial reporting as of December 31, 2019, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in its reports thereon, which are included therein and incorporated herein by reference. Such financial statements have been incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Exchange Act and file annual, quarterly and current reports, proxy statements and other information with the SEC. SEC filings are available at the SEC's web site at <http://www.sec.gov>.

This prospectus is only part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act, and therefore omits certain information contained in the registration statement. We have also filed exhibits and schedules with the registration statement that are excluded from this prospectus, and you should refer to the applicable exhibit or schedule for a complete description of any statement referring to any contract or other document. We also maintain a website at [www.albireopharma.com](http://www.albireopharma.com), through which you can access our SEC filings. The information set forth on our website is not part of this prospectus.

## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with them. Incorporation by reference allows us to disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We filed a registration statement on Form S-3 under the Securities Act with the SEC with respect to the securities we may offer pursuant to this prospectus. This prospectus omits certain information contained in the registration statement, as permitted by the SEC. You should refer to the registration statement, including the exhibits, for further information about us and the securities we may offer pursuant to this prospectus. Statements in this prospectus regarding the provisions of certain documents filed with, or incorporated by reference in, the registration statement are not necessarily complete and each statement is qualified in all respects by that reference. Copies of all or any part of the registration statement, including the documents incorporated by reference or the exhibits, are available at the SEC's web site at <http://www.sec.gov>. The documents we are incorporating by reference are:

- [our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 that we filed with the SEC on March 2, 2020](#);
- [the portions of our definitive proxy statement on Schedule 14A that we filed with the SEC on April 17, 2020 that are deemed "filed" with the SEC under the Exchange Act](#);
- our Quarterly Report on Form 10-Q for the quarter ended June 30, 2020 that we filed with the SEC on August 6, 2020;
- [our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020 that we filed with the SEC on May 7, 2020](#);
- our Current Reports on Form 8-K that we filed with the SEC on [January 29, 2020](#), [January 29, 2020](#), [January 30, 2020](#), [February 3, 2020](#), [March 26, 2020](#), [May 7, 2020](#), [June 9, 2020](#) and [June 15, 2020](#) (except for the information furnished under Items 2.02 or 7.01 and the exhibits furnished thereto);

- [the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on May 8, 2007, including any amendment or report filed for the purpose of updating such description; and](#)
- all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus and prior to the termination or completion of the offering of securities under this prospectus shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing such reports and other documents.

The SEC file number for each of the documents listed above is 001-33451.

In addition, all reports and other documents filed by us pursuant to the Exchange Act after the date of the initial registration statement and prior to effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus.

Any statement contained in this prospectus or in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

## PART II. INFORMATION NOT REQUIRED IN PROSPECTUS

### Item 14. Other Expenses of Issuance and Distribution

The following table sets forth an itemization of the various expenses, all of which we will pay, in connection with the issuance and distribution of the securities being registered. All of the amounts shown are estimated except the SEC Registration Fee.

SEC Registration Fee	\$ 12.98
Legal Fees and Expenses	\$25,000.00
Accounting Fees and Expenses	\$15,000.00
Miscellaneous	\$ 4,987.02
Total	\$45,000.00

### Item 15. Indemnification of Directors and Officers

#### *Delaware Law*

Section 102 of the General Corporation Law of the State of Delaware (“DGCL”) permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses, including attorneys’ fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

#### *Restated Certificate of Incorporation and Restated Bylaws*

Our restated certificate of incorporation and our restated bylaws provide that we shall indemnify our directors and executive officers to the fullest extent not prohibited by the DGCL or any other applicable law, except that we are not required to indemnify any director or executive officer in connection with any proceeding (or part thereof) initiated by such person unless (i) such indemnification is expressly required to be made by law, (ii) the proceeding was authorized by our board of directors, (iii) we provide such indemnification, in our sole discretion, pursuant to the powers vested in us under the DGCL or any other applicable law, or (iv) such indemnification is required to be made under the enforcement provisions of our restated bylaws.

Our restated bylaws also provide that we shall advance to any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was a director or executive officer of the Company, or is or was serving at our request as a director or executive officer of another corporation, partnership, joint venture, trust or other enterprise, prior to the final disposition of the proceeding, promptly following request therefor, all expenses incurred by any director or executive officer

in connection with such proceeding. However, if the DGCL requires, an advancement of expenses incurred by a director or executive officer in his or her capacity as a director or executive officer (and not in any other capacity in which service was or is rendered by such indemnitee, including service to an employee benefit plan) shall be made only upon delivery to us of an undertaking by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such indemnitee is not entitled to be indemnified for such expenses under our restated bylaws or otherwise. Unless otherwise determined under our restated bylaws, no advance shall be made by the Company to an executive officer of the Company (except by reasons of the fact that such executive officer is or was a director of the Company) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, if a determination is reasonably and promptly made by (i) our board of directors by a majority vote of directors who were not parties to the proceeding, even if not a quorum, or (ii) by a committee of such directors designated by a majority vote of such directors, even though less than a quorum, or (iii) if there are no such directors, or such directors so direct, by independent legal counsel in a written opinion, that the facts known to the decision-making party at the time such determination is made demonstrate clearly and convincingly that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to the best interests of the Company.

Our restated certificate of incorporation eliminates the liability of a director to us or our stockholders for monetary damages for such a breach of fiduciary duty as a director, except for liabilities arising:

- from any breach of the director's duty of loyalty to us or our stockholders;
- from acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- under Section 174 of the DGCL; and
- from any transaction from which the director derived an improper personal benefit.

#### ***Indemnification Agreements***

We have entered into indemnification agreements with our directors and officers, in addition to the indemnification provided in our restated certificate of incorporation and our restated bylaws, and intend to enter into indemnification agreements with any new directors and executive officers in the future. Pursuant to our indemnification agreements, we have agreed to indemnify and hold harmless these directors and officers to the fullest extent permitted by the DGCL. The agreements generally cover expenses that a director or officer incurs or amounts that a director or officer becomes obligated to pay in connection with any proceeding in any way connected with, resulting from or relating to his or her service as a current or former director, officer, employee or agent of the Company or any direct or indirect subsidiary of the Company. The agreements also provide for the advancement of expenses to the directors and officers subject to specified conditions. There are certain exceptions to the Company's obligation to indemnify the directors and officers, including with respect to "short-swing" profit claims under Section 16(b) of the Exchange Act; with respect to conduct by him or her that is established to be knowingly fraudulent or deliberately dishonest or constituted willful misconduct; and, with certain exceptions, with respect to proceedings that he or she initiates.

We have purchased and intend to maintain insurance on behalf of any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

The foregoing discussion of our restated certificate of incorporation, restated bylaws, indemnification agreements and Delaware law is not intended to be exhaustive and is qualified in its entirety by such restated certificate of incorporation, restated bylaws, indemnification agreements or law.

#### **Item 16. Exhibits**

The exhibit index set forth immediately prior to the signature page is incorporated herein by reference.

**Item 17. Undertakings**

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however*, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or

modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) That, for purposes of determining any liability under the Securities Act:

(i) the information omitted from the form of prospectus filed as part of the registration statement in reliance upon Rule 430A and contained in the form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of the registration statement as of the time it was declared effective; and

(ii) each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(d) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

## EXHIBITS INDEX

<u>Exhibit No.</u>	<u>Description</u>
<a href="#">4.1</a>	<a href="#">Specimen stock certificate (incorporated by reference to Exhibit 4.1 to the Registrant's amendment no. 1 to registration statement on Form S-1 filed on March 27, 2007 (Commission File No. 333-140504)).</a>
<a href="#">4.2</a>	<a href="#">Form of Warrant issued to the Warrantholder under the Loan Agreement, (incorporated by reference to Exhibit 10.2 to the Registrant's current report on Form 8-K filed on June 9, 2020 (Commission File No. 001-33451)).</a>
<a href="#">4.3</a>	<a href="#">Loan and Security Agreement, dated June 8, 2020, among Albireo Pharma, Inc., Albireo AB, and Hercules Capital, Inc., in its capacity as administrative and collateral agent for itself and the other Lenders party thereto (incorporated by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed on June 9, 2020 (Commission File No. 001-33451)).</a>
<a href="#">5.1†</a>	<a href="#">Opinion of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.</a>
<a href="#">23.1†</a>	<a href="#">Consent of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. (included in Exhibit 5.1).</a>
<a href="#">23.2†</a>	<a href="#">Consent of Ernst &amp; Young LLP.</a>
<a href="#">24.1†</a>	<a href="#">Power of Attorney (included on the signature page to this registration statement).</a>

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† Filed herewith

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Boston, Commonwealth of Massachusetts, on August 6, 2020.

**ALBIREO PHARMA, INC.**

By: /s/ Ronald H.W. Cooper

Ronald H.W. Cooper  
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

**POWER OF ATTORNEY**

We, the undersigned officers and directors of Albireo Pharma, Inc., hereby severally constitute and appoint Ronald H.W. Cooper, Simon N.R. Harford and Jason G. Duncan, Esq., and each of them singly (with full power to each of them to act alone), our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them for him or her and in his or her name, place and stead, and in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement (or any other registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Ronald H.W. Cooper</u> Ronald H.W. Cooper	President, Chief Executive Officer and Director (principal executive officer)	August 6, 2020
<u>/s/ Simon N.R. Harford</u> Simon N.R. Harford	Chief Financial Officer (principal financial officer and principal accounting officer)	August 6, 2020
<u>/s/ David Chiswell, Ph.D.</u> David Chiswell, Ph.D.	Chairman of the Board of Directors	August 6, 2020
<u>/s/ Michael Gutch, Ph.D.</u> Michael Gutch, Ph.D.	Director	August 6, 2020
<u>/s/ Roger A. Jeffs, Ph.D.</u> Roger A. Jeffs, Ph.D.	Director	August 6, 2020

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Anne Klibanski, Ph.D.</u> Anne Klibanski, Ph.D.	Director	August 6, 2020
<u>/s/ Stephanie S. Okey, M.S.</u> Stephanie S. Okey, M.S.	Director	August 6, 2020
<u>/s/ Davey S. Scoon</u> Davey S. Scoon	Director	August 6, 2020

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One Financial Center  
Boston, MA 02111  
617-542-6000  
www.mintz.com

August 6, 2020

Albireo Pharma, Inc.  
10 Post Office Square, Suite 1000  
Boston, Massachusetts 02109

Ladies and Gentlemen:

We have acted as legal counsel to Albireo Pharma, Inc., a Delaware corporation (the "Company"), in connection with the preparation and filing with the Securities and Exchange Commission (the "Commission") of a Registration Statement on Form S-3 (the "Registration Statement") under the Securities Act of 1933, as amended (the "Securities Act"). The Registration Statement relates to the offer and sale by the selling shareholder named in the Registration Statement of up to 5,311 shares (the "Shares") of the Company's common stock, \$0.01 par value per share ("Common Stock"). The Shares consist of 5,311 shares of Common Stock issuable upon the exercise of a warrant dated June 8, 2020 (the "Warrant") issued to Hercules Capital, Inc., as administrative agent and collateral agent for the benefit of certain lenders who have agreed to make certain term loan advances to the Company. This opinion is being rendered in connection with the filing of the Registration Statement with the Commission. All capitalized terms used herein and not otherwise defined shall have the respective meanings given to them in the Registration Statement.

In connection with this opinion, we have examined the Company's Restated Certificate of Incorporation and Amended and Restated Bylaws, each as currently in effect; such other records of the corporate proceedings of the Company and certificates of the Company's officers as we have deemed relevant; and the Registration Statement and the exhibits thereto.

In our examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such copies, and the truth and correctness of any representations and warranties contained therein.

Our opinion is limited to the General Corporation Law of the State of Delaware and we express no opinion with respect to the laws of any other jurisdiction. No opinion is expressed herein with respect to the qualification of the Shares under the securities or blue sky laws of any state or any foreign jurisdiction.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

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Based upon the foregoing, we are of the opinion that the 5,311 shares of Common Stock, when issued and delivered upon the exercise of the Warrant in accordance with the terms of the Warrant, will be validly issued, fully-paid and non-assessable.

We understand that you wish to file this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K promulgated under the Securities Act and to reference the firm's name under the caption "Legal Matters" in the prospectus which forms part of the Registration Statement, and we hereby consent thereto. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.  
Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

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**Consent of Independent Registered Public Accounting Firm**

We consent to the reference to our firm under the caption "Experts" in the Registration Statement on Form S-3 and related Preliminary Prospectus of Albireo Pharma, Inc. for the registration of 5,311 shares of its common stock, and to the incorporation by reference therein of our reports dated March 2, 2020, with respect to the consolidated financial statements of Albireo Pharma, Inc., and the effectiveness of internal control over financial reporting of Albireo Pharma, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2019, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts

August 6, 2020

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