

# SECURITIES & EXCHANGE COMMISSION EDGAR FILING

## Hepion Pharmaceuticals, Inc.

**Form: 424B5**

**Date Filed: 2020-02-12**

Corporate Issuer CIK: 1583771

**PROSPECTUS SUPPLEMENT**  
**(To Prospectus dated February 19, 2019)**



**HEPION PHARMACEUTICALS, INC.**

**Up to \$7,000,000 of Shares**

**Common Stock**

We have entered into an At Market Issuance Sales Agreement (the "Sales Agreement") with B. Riley FBR, Inc. ("Sales Agent" or "B. Riley FBR"), relating to shares of our common stock offered by this prospectus supplement. In accordance with the terms of the Sales Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$7,000,000 from time to time to or through B. Riley FBR, acting as sales agent or principal.

Our common stock is listed on The Nasdaq Capital Market under the symbol "HEPA." On February 10, 2020, the last reported sale price of our common stock on The Nasdaq Capital Market was \$5.06 per share.

Sales of our common stock, if any, under this prospectus supplement may be made by any method deemed to be an "at the market offering" as defined in Rule 415 promulgated under the Securities Act of 1933, as amended. B. Riley FBR has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between B. Riley FBR and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The compensation to B. Riley FBR for sales of common stock sold pursuant to the Sales Agreement is an aggregate of up to 3.0% of the gross proceeds of the sales price per share. In connection with the sale of the common stock on our behalf, B. Riley FBR will be deemed to be an "underwriter" within the meaning of the Securities Act of 1933, as amended, and the compensation of B. Riley FBR will be deemed to be underwriting commissions or discounts.

As of February 10, 2020, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$21.6 million based on 3,760,255 outstanding shares of common stock, of which approximately 3,759,645 shares of common stock were held by non-affiliates, and a per share price of \$5.74, the closing sale price of our common stock on January 29, 2020. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities pursuant to this prospectus supplement with a value more than one-third of the aggregate market value of our common stock held by non-affiliates in any 12-month period, so long as the aggregate market value of our common stock held by non-affiliates remains less than \$75.0 million. During the 12 calendar month period that ends on, and includes, the date of this prospectus supplement, we have not sold any of our securities pursuant to General Instruction I.B.6 of Form S-3.

**Investing in our securities involves a high degree of risk. You should read this prospectus supplement and the accompanying prospectus as well as the information incorporated herein and therein by reference carefully before you make your investment decision. See "[Risk Factors](#)" beginning on page S-8 of this prospectus supplement and on page 7 of the accompanying prospectus.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus supplement. Any representation to the contrary is a criminal offense.**

**B. Riley FBR**

The date of this prospectus supplement is February 12, 2020.

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**PROSPECTUS**

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**You should rely only on the information we have provided or incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus supplement or the accompanying prospectus.**

**This prospectus supplement and any later prospectus supplement is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so.**

**You should assume that the information contained in this prospectus supplement and in any other prospectus supplement is accurate only as of their respective dates and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus supplement or any other prospective supplement for any sale of securities.**

#### **ABOUT THIS PROSPECTUS SUPPLEMENT**

This prospectus supplement and the accompanying prospectus relate to the sale of shares of our common stock registered for sale under our Registration Statement on Form S-3 (File no. 333-229534) (the "Registration Statement"), which the Securities Exchange Commission (the "Commission" or the "SEC") declared effective on February 19, 2019. This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this common stock offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein and therein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Neither we nor the Sales Agent have authorized anyone to provide information different from that contained in this prospectus supplement and the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering. When you make a decision about whether to invest in our common stock, you should not rely upon any information other than the information in this prospectus supplement or the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering. Neither the delivery of this prospectus supplement or the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering, nor the sale of our common stock means that information contained in this prospectus supplement and the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering, is correct after their respective dates. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" in this prospectus supplement.

We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and

the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless otherwise stated, all references to “us,” “our,” “HEPA,” “we,” the “Company” and similar designations refer to Hepion Pharmaceuticals, Inc.

On May 31, 2019, we amended our certificate of incorporation, as amended, to effect a 1-for-70 reverse split of our issued and outstanding shares of common stock (the “Reverse Stock Split”). All share and per share data in this prospectus supplement gives effect to the reverse stock split.

## PROSPECTUS SUMMARY

*This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement and the accompanying prospectus, and the information referred to under the heading "Risk Factors" in this prospectus supplement on page S-8 and on page 7 of the accompanying prospectus, and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus.*

### **Business Overview**

We are a biopharmaceutical company headquartered in Edison, New Jersey, focused on the development of pleiotropic drug therapy for treatment of chronic liver disease. This therapeutic approach targets fibrosis and hepatocellular carcinoma ("HCC") associated with non-alcoholic steatohepatitis ("NASH"), viral hepatitis, and other liver diseases. Our cyclophilin inhibitor, CRV431, is being developed to offer benefits to address these multiple complex pathologies. CRV431 is a cyclophilin inhibitor that targets multiple biochemical pathways involved in the progression of liver disease. Preclinical studies with CRV431 in NASH models demonstrated consistent reductions in liver inflammation, fibrosis, and cancerous tumors.

NASH is the form of liver disease that is triggered by what has come to be known as the "Western diet", characterized especially by high-fat, high-sugar, and processed foods. Among the effects of a prolonged Western diet is fat accumulation in liver cells (steatosis) which is described as non-alcoholic fatty liver disease ("NAFLD") and can predispose cells to injury. NAFLD may evolve into NASH when the fatty liver begins to progress through stages of cell injury, inflammation, fibrosis, and carcinogenesis. People who develop NASH often have additional predisposing conditions such as diabetes and hypertension, but the exact biochemical events that trigger and maintain the progression are not well known. Many people in the early stages of disease do not have significant symptoms and therefore do not know that they have it. NASH becomes evident and a major concern when the liver becomes fibrotic and puts the individual at increased risk of developing cirrhosis and other complications. Individuals with advanced liver fibrosis have significantly higher risk of developing liver cancer, although cancer may also arise in some patients before severely advanced fibrosis (e.g. cirrhosis). NASH is increasing worldwide at an alarming rate due to the spread of the Western diet, obesity, and other related conditions. Approximately 4-5% of the global population is estimated to have NASH, and that proportion is higher in the USA. It is predicted that NASH will become the leading reason for individuals requiring a liver transplant in the USA as early as 2020. Considering the serious outcomes linked to advancing NASH, the economic and social burden of the disease is enormous. There are no simple blood tests to diagnose or track the progression of NASH, and no drugs are approved to specifically treat the disease.

HCC is the major type of liver cancer, accounting for 85-90% of all cases. NASH, hepatitis virus infection, and alcohol consumption all are major causes of HCC. Globally, over 700,000 people die each year from liver cancer which is second only to lung cancer among all cancer-related deaths. The high mortality is due to the fact that only around half of all people who develop HCC (in developed countries) receive the diagnosis early enough to have an opportunity for therapeutic intervention. Additionally, recurrence rates are high, and current treatment options remain limited.

HCC is a type of cancer in which the tissue microenvironment plays a major role in its development. In most cases HCC is preceded by significant, long-term damage to liver cells, inflammation and fibrosis. One-third of people with cirrhosis, a very advanced stage of liver disease, will eventually progress to HCC. The chronic injury to the liver leads to many genetic mutations that may eventually lead to transformation of cells and formation of tumors. These various events underscore the importance of halting liver injury and scarring as early and effectively as possible to prevent cancer development.

Viral hepatitis may be linked to one or more viruses including hepatitis A, B, C, D, or E. Hepatitis B virus (“HBV”) is one of many hepatitis viruses that selectively infect human liver cells and can establish persistent infections under certain conditions. Chronic infections, especially by HBV, HCV, and HDV, cause progressive liver inflammation, fibrosis, cirrhosis, and cancer. Collectively, these infections represent one of the 3 major triggers of progressive liver disease (NAFLD/NASH and alcohol being the others).

We are developing CRV431 as our lead molecule. CRV431 is a cyclophilin inhibitor that targets specific isomerases that play an important role in protein folding in health and in disease. To date, in vivo studies in a number of animal models of fibrosis and HCC have repeatedly and consistently demonstrated that CRV431 reduces fibrosis scores and overall liver tumor burden. Other models including in vitro and ex vivo (human precision cut liver slices) have similarly demonstrated the anti-fibrotic effects of CRV431. We have completed a Single Ascending Dose (‘SAD’) phase 1 human clinical study with CRV431 demonstrating safety, tolerability, and pharmacokinetics (PK). We are now in the midst of conducting a Multiple Ascending Dose (‘MAD’) phase 1 human clinical trial investigating safety, tolerability, and PK of CRV431.

## **CRV431**

CRV431 is a novel drug candidate designed to target a class of proteins called cyclophilins, of which there are many isoforms. Cyclophilins play a role in health and in the pathogenesis of certain diseases, and are known as peptidyl prolyl isomerases. The isomerase activity plays an important role in a number of biological processes including, for example, folding of proteins to confer certain 3-dimensional configurations. Additionally, specific host cyclophilins (e.g., cyclophilin A, B, C, D) play a role in the pathogenesis of many diseases, including liver disease and viral hepatitis.

Cyclophilins are pleiotropic enzymes that play a role in injury and steatosis through mechanisms including cell death occurring through mitochondrial pore permeability (cyclophilin D). Inhibition of cyclophilin D, therefore, may play an important role in protection from cell injury and death. Other mechanisms including cyclophilin A binding to CD147 which plays a role in inflammation, and cyclophilin B which plays a role in fibrosis through collagen production and formation of the collagen triple helix underscore the importance of the role of cyclophilins. Cyclophilins also play a role in cirrhosis and cancer (e.g., cell proliferation and metastasis). Cyclophilin inhibition through the use of CRV431 may therefore may play an important role in reducing liver disease.

Important risk factors for development of liver disease include the presence of non-alcoholic fatty liver disease and the more aggressive form called non-alcoholic steatohepatitis (NASH). Additional risk factors for the development of liver disease includes the presence of viral hepatitis (HBV, HCV, HDV), and alcohol consumption.

We have conducted four separate studies of CRV431 in a mouse NASH model. This model utilized streptozotocin in combination with a high fat diet to create NASH, with fibrosis occurring in eight to twelve weeks. By approximately 20 weeks of age, mice began to develop hepatocellular carcinoma (HCC).

In our first study, conducted by an independent laboratory in Japan, non-alcoholic fatty liver disease (NAFLD) activity scores (NAS) were assessed. NAS, a composite score of steatosis, inflammation, and ballooning of the liver, was determined when either five or 20 mg/kg once daily treatment with CRV431 was administered by oral gavage. In this first study, CRV431 was administered for only three weeks which did not result in a statistically significant decline in NAS. In a second independent study conducted at Scripps Research Institute, CRV431 was administered for six weeks at a dose of 50 mg/kg/day orally. A third study conducted at Scripps wherein CRV431 was administered for 11 weeks demonstrated a statistically significant decline in NAFLD activity scores, whereas the six-week study did not. A fourth study conducted at Scripps was undertaken to investigate fibrosis and HCC.

Each of these same four studies also examined fibrosis scores, as measured by Sirius red staining for collagen. Except for the lowest dose tested in Japan, which was only 5 mg/kg/day of CRV431, all four studies demonstrated that CRV431 resulted in a statistically significant reduction of fibrosis, compared to vehicle control, whether the

study drug was given for 3, 6, 10 or 11-weeks once daily by oral gavage. Significant reductions in fibrosis scores were observed at both 20 and 50 mg/kg/day.

In longer-term experiments in the NASH mouse model, CRV431 dosing began on week 20, for a period of 10 weeks. Hepatocellular carcinoma (HCC) begins to develop at about 20 weeks in this model. CRV431 was administered by oral gavage at 50 mg/kg/day. Our results indicated that CRV431 significantly ( $p=0.02$ ) reduced tumor burden (number and size of nodules) compared with vehicle control mice. This score reflected a tumor burden reduction of about 52%. Altogether, the most robust and consistent CRV431 effects in the NASH model were reductions in fibrosis and cancerous nodules.

Our Phase 1 single ascending dose study was performed in healthy volunteers administered CRV431 orally at doses of 75, 225, 375, and 525 mg. This study design was a randomized, partially blinded, placebo-controlled trial to evaluate the safety, tolerability, and PK of CRV431. A total of 6 subjects were given CRV431 in each of the four dosing cohorts. An additional 2 subjects were given placebo in each of these cohorts, so that a total of 24 subjects received CRV431 and a total of 8 subjects received placebo.

The T<sub>max</sub> occurred generally at about one hour. As expected, corresponding C<sub>max</sub> values increased with increasing dose. Systemic exposures, as determined by AUC were linear ( $r^2 = 0.914$ ) up to 375 mg, but AUCs (systemic exposures) did not appreciably change from 375 mg to 525 mg. Terminal elimination half-life was approximately 100 hours.

In the Phase 1 study of CRV431, there were no severe adverse events (SAEs). The adverse events (AEs) reported were mild to moderate in nature and were almost all not related to study drug. There were no Grade 3 or 4 lab abnormalities, and all vital signs and ECGs remained normal.

On May 10, 2018, we submitted an Investigational New Drug Application (“IND”) to the U.S. Food and Drug Administration (“FDA”) to support initiation of our CRV431 HBV clinical development program in the United States and received approval in June 2018. We completed the first segment of our Phase 1 clinical activities for CRV431 in October 2018 wherein we reached a major clinical milestone of positive data from a Phase I trial of CRV431 in humans. This achievement triggered the first milestone payment, as stated in the Merger Agreement for the acquisition of Ciclofilin Pharmaceuticals, Inc. (“Ciclofilin”) and we paid a related milestone payment of \$1,000,000 and issued 1,439 shares of our common stock with a fair value of \$55,398, representing 2.5% of our issued and outstanding common stock as of June 2016, to the Ciclofilin shareholders. On June 17, 2019, we submitted an IND to the FDA to support initiation of our CRV431 NASH clinical development program in the United States and received approval in July 2019.

### **Corporate History and Information**

We were incorporated in Delaware on May 15, 2013 for the purpose of holding certain FV-100 assets of Synergy Pharmaceuticals Inc., or Synergy. We were a majority-owned subsidiary of Synergy Pharmaceuticals Inc. (Synergy) until February 18, 2014, the date Synergy completed the spinout of our shares of common stock. Our principal executive offices are located at 399 Thornall Street, First Floor, Edison, New Jersey 08837. Our telephone number is (732) 902-4000 and our website address is [www.hepionpharma.com](http://www.hepionpharma.com). The information on our website is not a part of, and should not be construed as being incorporated by reference into, this registration statement or the accompanying prospectus.

### **Implications of Being an Emerging Growth Company**

We are an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and, for as long as we continue to be an “emerging growth company,” we may choose to take advantage of exemptions from various reporting requirements applicable to other public companies but not to “emerging growth companies,” including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We could be an “emerging growth company” for up to five years, or until the earliest of

(i) the last day of the first fiscal year in which our annual gross revenues exceed \$1.07 billion, (ii) the date that we become a “large accelerated filer” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, which would occur if the market value of our common shares that is held by non-affiliates exceeds \$700 million as of the last business day of our most recently completed second fiscal quarter, or (iii) the date on which we have issued more than \$1 billion in non-convertible debt during the preceding three-year period.

## THE OFFERING

|   |  |
|---|--|
| Common stock offered by us                            | Shares of our common stock with aggregate gross sale proceeds of up to \$7,000,000.  |
| Common stock to be outstanding after this offering(1) | Up to 5,143,654 shares, after giving effect to the assumed sale of 1,383,399 of shares of our common stock at a price of \$5.06 per share, which was the closing price of our common stock on The Nasdaq Capital Market on February 10, 2020. The actual number of shares issued will vary depending on the price at which shares may be sold from time to time during this offering.  |
| Form of offering                                      | “At the market offering” that may be made from time to time through or to B. Riley FBR, as sales agent or principal. See “Plan of Distribution.”   |
| Use of Proceeds                                       | We intend to use the net proceeds from this offering, if any, for general corporate purposes, including clinical trials, research and development expenses and general and administrative expenses. See “Use of Proceeds” on page S-9 of this prospectus supplement.   |
| Risk Factors  | Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading “Risk Factors” on page S-8 of this prospectus supplement and page 7 of the accompanying prospectus, and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus supplement and the accompanying prospectus. |
| Nasdaq Capital Market Symbol                          | “HEPA.”  |

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(1) Based on 3,760,255 shares of common stock outstanding as of December 31, 2019 and excludes:

- 41,271 shares of our common stock issuable upon exercise of outstanding options at a weighted average price of \$194.83 per share;
- 2,538,568 shares of our common stock issuable upon exercise of outstanding warrants with a weighted-average exercise price of \$19.37 per share;
- 3,184 shares of our common stock issuable upon conversion of outstanding shares of Series A Convertible Preferred Stock;
- 16,840 shares of our common stock issuable upon conversion of outstanding shares of Series C Convertible Preferred Stock;

## RISK FACTORS

*Investing in our common stock involves risk. Before deciding whether to invest in our common stock, you should consider carefully the risks and uncertainties described below and discussed under the section entitled "Risk Factors" on page 6 of the accompanying prospectus. You should also 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 most recent quarterly report on Form 10-Q, each of which are on file with the SEC and 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. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. If any of these risks actually occurs, our business, business prospects, financial condition or results of operations could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled "Disclosure Regarding Forward-Looking Statements."*

### **Risks Related to This Offering**

#### ***Management will have broad discretion as to the use of the proceeds from this offering, and may not use the proceeds effectively.***

Because we have not designated the amount of net proceeds from this offering to be used for any particular purpose, our management will have broad discretion as to the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of the offering. Our management may use the net proceeds for corporate purposes that may not improve our financial condition or market value.

#### ***You may experience immediate and substantial dilution.***

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 1,383,399 shares of our common stock are sold during the term of the Sales Agreement with the Sales Agent at a price of \$5.06 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on February 10, 2020, for aggregate gross proceeds of \$7,000,000, after deducting commissions and estimated aggregate offering expenses payable by us, you will experience immediate dilution of \$1.29 per share, representing the difference between our pro forma as adjusted net tangible book value per share as of September 30, 2019 after giving effect to this offering and the assumed offering price. The exercise of outstanding stock options and warrants may result in further dilution of your investment. See the section entitled "Dilution" below for a more detailed illustration of the dilution you would incur if you participate in this offering.

#### ***You may experience future dilution as a result of future equity offerings.***

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

#### ***The common stock offered hereby will be sold in "at-the-market" offerings, and investors who buy shares at different times will likely pay different prices.***

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors

may experience a decline in the value of their shares as a result of share sales made at prices lower than the prices they paid.

***The actual number of shares we will issue under the Sales Agreement, at any one time or in total, is uncertain.***

Subject to certain limitations in the Sales Agreement and compliance with applicable law, we have the discretion to deliver a sales notice to the Sales Agent at any time throughout the term of the Sales Agreement. The number of shares that are sold by the Sales Agent after delivering a sales notice will fluctuate based on the market price of the common stock during the sales period and limits we set with B. Riley FBR. Because the price per share of each share sold will fluctuate based on the market price of our common stock during the sales period, it is not possible at this stage to predict the number of shares that will be ultimately issued.

***We do not intend to pay dividends in the foreseeable future.***

We have never paid cash dividends on our common stock. We currently intend to retain our future earnings, if any, to finance the operation and growth of our business and currently do not plan to pay any cash dividends in the foreseeable future.

**DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS**

This prospectus supplement, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Exchange Act of 1934, as amended (the "Exchange Act"). Such forward-looking statements include those that express plans, anticipation, intent, contingency, goals, targets or future development and/or otherwise are not statements of historical fact. These forward-looking statements are based on our current expectations and projections about future events and they are subject to risks and uncertainties known and unknown that could cause actual results and developments to differ materially from those expressed or implied in such statements.

In some cases, you can identify forward-looking statements by terminology, such as "expects," "anticipates," "intends," "estimates," "plans," "believes," "seeks," "may," "should", "could" or the negative of such terms or other similar expressions. Accordingly, these statements involve estimates, assumptions and uncertainties that could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus supplement.

You should read this prospectus supplement and the accompanying prospectus and the documents that we reference herein, completely and with the understanding that our actual future results may be materially different from what we expect. You should assume that the information appearing in this prospectus supplement is accurate as of the date on the front cover of this prospectus supplement. Because the risk factors referred to above, as well as the risk factors referred to on page S-8 of this prospectus supplement and on page 7 of the accompanying prospectus, could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. We qualify all of the information presented in this prospectus, and particularly our forward-looking statements, by these cautionary statements.

**USE OF PROCEEDS**

We currently intend to use the net proceeds from this offering to fund our research and development activities and for working capital and other general corporate purposes, and possibly acquisitions of other companies, products or technologies, though no such acquisitions are currently contemplated.

The amounts and timing of our use of the net proceeds from this offering will depend on a number of factors, such as the timing and progress of our research and development efforts, the timing and progress of any collaborative or strategic partnering efforts, and the competitive environment for our planned products. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short-term, interest-bearing instruments.

**DILUTION**

If you purchase our common stock in this offering, your interest will be diluted to the extent of the difference between the public offering price per share and the net tangible book value per share of our common stock after this offering. We calculate net tangible book value per share by dividing our net tangible assets (tangible assets less total liabilities) by the number of shares of our common stock issued and outstanding as of September 30, 2019.

Our net tangible book value at September 30, 2019 was \$11.2 million, or \$3.23 per share. After giving effect to (i) the issuance of 306,500 shares of common stock relating to the exercise of warrants in November and December 2019 and (ii) the repayment of \$0.3 million of convertible debt in October 2019, our pro forma net tangible book value as of September 30, 2019 would have been \$13.0 million or \$3.46 per share of common stock. After giving effect to the sale of our common stock during the term of the Sales Agreement with the Sales Agent in the aggregate amount of \$7.0 million at an assumed offering price of \$5.06 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on February 10, 2020, and after deducting commissions and estimated aggregate offering expenses payable by us, our pro forma as adjusted net tangible book value as of September 30, 2019 would have been \$19.4 million, or \$3.77 per share of common stock. This represents an immediate increase in the net tangible book value of \$0.31 per share to our existing stockholders and an immediate dilution in net tangible book value of \$1.29 per share to new investors. The following table illustrates this per share dilution:

|  |                |                |
|--|----------------|----------------|
| Assumed public offering price per share  |                | \$ 5.06        |
| Pro forma net tangible book value per share as of September 30, 2019   | \$ 3.46        |                |
| Increase in pro forma net tangible book value per share attributable to this offering                                  | <u>\$ 0.31</u> |                |
| Pro forma as adjusted net tangible book value per share as of September 30, 2019, after giving effect to this offering |                | \$ 3.77        |
| Dilution per share to new investors purchasing shares in this offering   |                | <u>\$ 1.29</u> |

The table above assumes for illustrative purposes that an aggregate of 1,383,399 shares of our common stock are sold at an assumed offering price of \$5.06 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on February 10, 2020, for aggregate gross proceeds of approximately \$7,000,000. The shares sold in this offering, if any, will be sold from time to time at various prices. An increase of \$0.10 per share in the price at which the shares are sold from the assumed offering price of \$5.06 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$7,000,000 is sold at that price, would increase our pro forma adjusted net tangible book value per share after this offering to \$3.79 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$1.27 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$0.10 per share in the price at which the shares are sold from the assumed offering price of \$5.06 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$7,000,000 is sold at that price, would decrease our pro forma adjusted net tangible book value per share after this offering to \$3.75 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$1.31 per share, after deducting commissions and estimated aggregate offering expenses payable by us.

The number of shares of common stock outstanding after this offering as reflected in the table above is based on the actual number of shares outstanding as of September 30, 2019 which was 3,453,755, and does not include, as of that date:

- 30,129 shares of our common stock issuable upon exercise of outstanding options at a weighted average price of \$265.99 per share;
- 2,841,073 shares of our common stock issuable upon exercise of outstanding warrants with a weighted-average exercise price of \$17.79 per share;
- 3,184 shares of our common stock issuable upon conversion of outstanding shares of Series A Convertible Preferred Stock;
- 16,840 shares of our common stock issuable upon conversion of outstanding shares of Series C Convertible Preferred Stock;

To the extent that options as of September 30, 2019 have been or are exercised, or other shares are issued, investors purchasing shares in this offering could experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

### SELECTED FINANCIAL DATA

The following selected financial data is based on common stock and per share data from our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 and Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, as retrospectively adjusted to reflect the Reverse Stock Split. Our interim financial information contained in our Quarterly Reports on Form 10-Q for the quarters ended June 30, 2019 and September 30, 2019 reflect the effects of the Reverse Stock Split.

|  | Three months ended |                | Three months ended |                | Year Ended      |                 | Transition Period Ended |                | Year Ended      |                 |
|--|--------------------|----------------|--------------------|----------------|-----------------|-----------------|-------------------------|----------------|-----------------|-----------------|
|  | 3/31/2019          |                | 3/31/2018          |                | 12/31/2018      |                 | 12/31/2017              |                | 6/30/2017       |                 |
|  | As Reported        | As Adjusted    | As Reported        | As Adjusted    | As Reported     | As Adjusted     | As Reported             | As Adjusted    | As Reported     | As Adjusted     |
| <b>Basic net (loss) income per common share</b>                    |                    |                |                    |                |                 |                 |                         |                |                 |                 |
| Numerator:   |                    |                |                    |                |                 |                 |                         |                |                 |                 |
| Net loss attributable to common shareholders—basic                 | \$ (2,008,032)     | \$ (2,008,032) | \$ (2,690,488)     | \$ (2,690,488) | \$ (17,901,146) | \$ (17,901,146) | \$ (7,511,092)          | \$ (7,511,092) | \$ (14,891,050) | \$ (14,891,050) |
| Denominator:   |                    |                |                    |                |                 |                 |                         |                |                 |                 |
| Basic weighted average common shares outstanding                   | 17,508,583         | 250,123        | 10,124,112         | 144,631        | 12,871,530      | 183,879         | 9,678,329               | 138,262        | 7,286,304       | 104,091         |
| Net loss per share of common stock—basic                           | \$ (0.11)          | \$ (8.03)      | \$ (0.27)          | \$ (18.60)     | \$ (1.39)       | \$ (97.35)      | \$ (0.78)               | \$ (54.33)     | \$ (2.04)       | \$ (143.06)     |
| <b>Diluted net (loss) income per common share</b>                  |                    |                |                    |                |                 |                 |                         |                |                 |                 |
| Numerator:   |                    |                |                    |                |                 |                 |                         |                |                 |                 |
| Net loss attributable to common stockholders—basic                 | \$ (2,008,032)     | \$ (2,008,032) | \$ (2,690,488)     | \$ (2,690,488) | \$ (17,901,146) | \$ (17,901,146) | \$ (7,511,092)          | \$ (7,511,092) | \$ (14,891,050) | \$ (14,891,050) |
| Less: reversal of gain on warrants                                 | —                  | —              | —                  | —              | —               | —               | —                       | —              | (2,698,015)     | (2,698,015)     |
| Net loss attributable to common stockholders—diluted               | (2,008,032)        | (2,008,032)    | (2,690,488)        | (2,690,488)    | (17,901,146)    | (17,901,146)    | (7,511,092)             | (7,511,092)    | (17,589,065)    | (17,589,065)    |
| Denominator:   |                    |                |                    |                |                 |                 |                         |                |                 |                 |
| Basic weighted average common shares outstanding                   | 17,508,583         | 250,123        | 10,124,112         | 144,631        | 12,871,530      | 183,879         | 9,678,329               | 138,262        | 7,286,304       | 104,091         |
| Effect of dilutive securities                                      |                    |                |                    |                |                 |                 |                         |                |                 |                 |
| Exercise of warrants   | —                  | —              | —                  | —              | —               | —               | —                       | —              | 6,023           | 87              |
| Weighted average shares used to compute diluted net loss per share | 17,508,583         | 250,123        | 10,124,112         | 144,631        | 12,871,530      | 183,879         | 9,678,329               | 138,262        | 7,292,327       | 104,178         |
| Net loss per share of common stock—diluted                         | (0.11)             | (8.03)         | (0.27)             | (18.60)        | (1.39)          | (97.35)         | (0.78)                  | (54.33)        | (2.41)          | (168.84)        |

## PLAN OF DISTRIBUTION

We have entered into the sales agreement with B. Riley FBR, Inc. ("B. Riley FBR") under which we may issue and sell our common stock from time to time through or to B. Riley FBR acting as sales agent or principal. Sales of shares of our common stock, if any, under this prospectus may be made by any method that is deemed an "at the market offering" as defined in Rule 415 promulgated under the Securities Act. We may instruct B. Riley FBR not to sell common stock if the sales cannot be effected at or above the price designated by us from time to time. We or B. Riley FBR may suspend the offering of common stock upon notice and subject to other conditions.

B. Riley FBR will offer our common stock, if any, subject to the terms and conditions of the sales agreement as agreed upon by us and B. Riley FBR. Each time we wish to issue and sell common stock under the sales agreement, we will notify B. Riley FBR of the number or dollar value of shares to be issued, the time period during which such sales are requested to be made, any limitation on the number of shares that may be sold in one day, any minimum price below which sales may not be made and other sales parameters as we deem appropriate. Once we have so instructed B. Riley FBR, unless B. Riley FBR declines to accept the terms of the notice, B. Riley FBR has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such shares up to the amount specified on such terms. The obligations of B. Riley FBR under the sales agreement to sell our common stock are subject to a number of conditions that we must meet.

We will pay B. Riley FBR commissions for its services in acting as agent in the sale of common stock at a commission rate equal to 3.0% of the gross sales price per share sold. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse B. Riley FBR for certain specified expenses, including the fees and disbursements of its legal counsel in an amount not to exceed \$50,000 and ongoing diligence arising from the transactions contemplated by this Agreement in an amount not to exceed \$2,500 in the aggregate per calendar quarter. We estimate that the total expenses for the offering, excluding commissions and reimbursements payable to B. Riley FBR under the terms of the sales agreement, will be approximately \$130,000.

Settlement for sales of common stock will generally occur on the second business day following the date on which any sales are made, or on some other date that is agreed upon by us and B. Riley FBR in connection with a particular transaction, in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

In connection with the sale of the common stock on our behalf, B. Riley FBR will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of B. Riley FBR will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to B. Riley FBR against certain civil liabilities, including liabilities under the Securities Act.

The offering of our common stock pursuant to the sales agreement will terminate upon the earlier of (i) the sale of all of our common stock subject to the sales agreement, or (ii) termination of the sales agreement as provided therein.

B. Riley FBR and its affiliates may in the future provide various investment banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees.

#### **LEGAL MATTERS**

The validity of the issuance of the common stock offered hereby will be passed upon for us by Sheppard, Mullin, Richter & Hampton LLP, New York, New York. B. Riley FBR is being represented in connection with this offering by Duane Morris LLP, New York, New York.

#### **EXPERTS**

The consolidated financial statements as of December 31, 2018 and December 31, 2017 and for the year ended December 31, 2018, the six month transition period ended December 31, 2017 and the year ended June 30, 2017, incorporated by reference in this Prospectus Supplement have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm (the report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern), incorporated by reference herein, given on the authority of said firm as experts in auditing and accounting.

#### **WHERE YOU CAN FIND MORE INFORMATION**

This prospectus supplement constitutes a part of a registration statement on Form S-3 filed under the Securities Act. As permitted by the SEC's rules, the base prospectus and this prospectus supplement, which form a part of the registration statement, do not contain all the information that is included in the registration statement. You will find additional information about us in the registration statement. Any statements made in this prospectus or any prospectus supplement concerning legal documents are not necessarily complete and you should read the documents that are filed as exhibits to the registration statement or otherwise filed with the SEC for a more complete understanding of the document or matter.

We file annual, quarterly and special reports, proxy statements and other information with the SEC. These filings are available to the public at the SEC's website at [www.sec.gov](http://www.sec.gov) or at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. You can also obtain copies of materials we file with the SEC from our website found at [www.hepionpharma.com](http://www.hepionpharma.com). Information on our website does not constitute a part of, nor is it incorporated in any way, into this prospectus supplement and should not be relied upon in connection with making an investment decision.

#### **INCORPORATION OF DOCUMENTS BY REFERENCE**

We are "incorporating by reference" certain documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information in the documents incorporated by reference is considered to be part of this prospectus supplement. Statements contained in documents that we file with the SEC and that are incorporated by reference in this prospectus supplement will automatically update and supersede information contained in this prospectus supplement, including information in previously filed documents or reports that have been incorporated by reference in this prospectus supplement, to the extent the new information differs from or is inconsistent with the old information. We have filed or may file the following documents with the SEC and they are incorporated herein by reference as of their respective dates of filing:

- [Our Annual Report on Form 10-K for the year ended December 31, 2018 filed on March 14, 2019;](#)

- Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2019, June 30, 2019 and September 30, 2019, filed with the SEC on [May 15, 2019](#), [August 14, 2019](#) and [November 14, 2019](#), respectively;
- Our Current Reports on Form 8-K or Form 8-K/A (excluding any reports or portions thereof that are deemed to be furnished and not filed) filed on [January 16, 2019](#); [March 4, 2019](#); [March 19, 2019](#); [April 5, 2019](#); [May 2, 2019](#); [May 6, 2019](#); [May 8, 2019](#); [May 31, 2019](#); [June 6, 2019](#); [June 11, 2019](#); [June 12, 2019](#); [June 17, 2019](#); [June 20, 2019](#); [July 23, 2019](#); [July 30, 2019](#); [July 31, 2019](#); [August 7, 2019](#); [August 14, 2019](#); [September 3, 2019](#); [September 4, 2019](#); [October 3, 2019](#); [October 8, 2019](#); [October 10, 2019](#); [October 16, 2019](#); [October 23, 2019](#); [November 7, 2019](#); [November 8, 2019](#); [November 21, 2019](#); [December 4, 2019](#); [December 11, 2019](#); [January 6, 2020](#); [January 9, 2020](#); [January 28, 2020](#);
- [Our Definitive Proxy Statement filed with the SEC on April 2, 2019](#); and
- [The description of our common stock contained in our Form 8-A filed on February 24, 2015](#).

All documents that we filed with the SEC pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act subsequent to the date of this registration statement and prior to the filing of a post-effective amendment to this registration statement that indicates that all securities offered under this prospectus supplement have been sold, or that deregisters all securities then remaining unsold, will be deemed to be incorporated in this registration statement by reference and to be a part hereof from the date of filing of such documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus supplement shall be deemed modified, superseded or replaced for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement, or in any subsequently filed document that also is deemed to be incorporated by reference in this prospectus supplement, modifies, supersedes or replaces such statement. Any statement so modified, superseded or replaced shall not be deemed, except as so modified, superseded or replaced, to constitute a part of this prospectus supplement. None of the information that we disclose under Items 2.02 or 7.01 of any Current Report on Form 8-K or any corresponding information, either furnished under Item 9.01 or included as an exhibit therein, that we may from time to time furnish to the SEC will be incorporated by reference into, or otherwise included in, this prospectus supplement, except as otherwise expressly set forth in the relevant document. Subject to the foregoing, all information appearing in this prospectus supplement is qualified in its entirety by the information appearing in the documents incorporated by reference.

You may request, and we will provide you with, a copy of these filings, at no cost, by calling us at (732) 902-4000 or by writing to us at the following address:

Hepion Pharmaceuticals, Inc.  
399 Thornall Street, First Floor  
Edison, New Jersey 08837  
Attn.: Corporate Secretary

PROSPECTUS



**Common Stock**  
**Preferred Stock**  
**Debt Securities**  
**Warrants**  
**Units**

We may offer and sell, from time to time in one or more offerings, any combination of common stock, preferred stock, debt securities, warrants to purchase common stock, preferred stock or debt securities, or any combination of the foregoing, either individually or as units comprised of one or more of the other securities, having an aggregate initial offering price not exceeding \$100,000,000.

This prospectus provides a general description of the securities we may offer. Each time we sell a particular class or series of securities, we will provide specific terms of the securities offered in a supplement to this prospectus. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. You should read carefully this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference herein or therein before you invest in any of our securities.

The specific terms of any securities to be offered, and the specific manner in which they may be offered, will be described in one or more supplements to this prospectus. This prospectus may not be used to consummate sales of any of these securities unless it is accompanied by a prospectus supplement. Before investing, you should carefully read this prospectus and any related prospectus supplement.

Our common stock is presently listed on The NASDAQ Capital Market under the symbol "CTRV." On February 5, 2019, the last reported sale price of our common stock was \$0.31 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing on The NASDAQ Capital Market or any securities market or other exchange of the securities, if any, covered by the prospectus supplement.

These securities may be sold directly by us, through dealers or agents designated from time to time, to or through underwriters, dealers or through a combination of these methods on a continuous or delayed basis. See "Plan of Distribution" in this prospectus. We may also describe the plan of distribution for any particular offering of our securities in a prospectus supplement. If any agents, underwriters or dealers are involved in the sale of any securities in respect of which this prospectus is being delivered, we will disclose their names and the nature of our arrangements with them in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from any such sale will also be included in a prospectus supplement.

**Investing in our securities involves various risks. See "Risk Factors" contained herein for more information on these risks. Additional risks will be described in the related prospectus supplements under the heading "Risk Factors". You should review that section of the related prospectus supplements for a discussion of matters that investors in our securities should consider.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or passed upon the adequacy or accuracy of this prospectus or any accompanying prospectus supplement. Any representation to the contrary is a criminal offense.**

The date of this prospectus is February 19, 2019.

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. Under this shelf registration statement, we may sell from time to time in one or more offerings of common stock and preferred stock, various series of debt securities and/or warrants to purchase any of such securities, either individually or as units comprised of a combination of one or more of the other securities in one or more offerings up to a total dollar amount of \$100,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell any type or series of securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. We may also add, update or change in a prospectus supplement or free writing prospectus any of the information contained in this prospectus or in the documents we have incorporated by reference into this prospectus. This prospectus, together with the applicable prospectus supplement, any related free writing prospectus and the documents incorporated by reference into this prospectus and the applicable prospectus supplement, will include all material information relating to the applicable offering. You should carefully read both this prospectus and the applicable prospectus supplement and any related free writing prospectus, together with the additional information described under “Where You Can Find More Information,” before buying any of the securities being offered.

We have not authorized anyone to provide any information other than that contained in this prospectus or in any prospectus supplement or free writing prospectus prepared by or on behalf of us or to which we may have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We have not authorized anyone to provide you with different or additional information. This prospectus, any applicable supplement to this prospectus or any related free writing prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus, any applicable supplement to this prospectus or any related free writing prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

The information appearing in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing 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 and incorporates by reference market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe that these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus and the documents incorporated herein by reference, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading “Where You Can Find More Information.”

**Company References**

In this prospectus, "ContraVir," "the Company," "we," "us," and "our" refer to ContraVir Pharmaceuticals, Inc., a Delaware corporation, and its subsidiaries, unless the context otherwise requires.

## OUR BUSINESS

### Business Overview

We are a biopharmaceutical company headquartered in Edison, New Jersey. We are focused on the development of targeted therapies for liver disease arising from chronic hepatitis B, C and D virus (HBV, HCV, HDV), non-alcoholic steatohepatitis (NASH), fibrosis, and liver cancer.

Up to 25% of people with chronic hepatitis B virus (HBV) infection die prematurely from liver failure, cirrhosis, or liver cancer. Further, HBV-related end-stage liver disease or hepatocellular carcinoma (HCC) account for almost 1 million deaths per year and approximately 5-10% of liver transplant cases. The cumulative sales in the US, EU Five, and Japan is expected to exceed \$200 billion over the next 20 years. HCC is the fifth most common cancer in men and the seventh most common cancer in women. The five-year survival of HCC patients is only about 10%.

We are developing two novel anti-HBV compounds with complementary modes of action. The first, 'TXL', is most advanced clinically and is a nucleotide pro-drug of tenofovir that inhibits viral replication. The second drug candidate, 'CRV431' complements the actions of TXL. Taken together, both can reduce the negative impact of the virus on human health. To date, *in vitro* and/or *in vivo* studies have demonstrated reductions in HBV DNA, HBsAg, HBeAg, inhibition of virus uptake (NTCP transport inhibition), and stimulation of innate immunity. Importantly, *in vivo* studies in a NASH model of fibrosis and HCC have repeatedly demonstrated CRV431 reduces fibrosis scores and overall liver tumor burden. Hence, CRV431 is a pleiotropic molecule that may not only treat liver disease, but may also serve to reduce important risk factors (e.g., HBV) for developing the disease.

### CRV431

CRV431 is a novel drug candidate designed to target a class of proteins called cyclophilins, of which there are many types. Cyclophilins play a role in health and in the pathogenesis of certain diseases, and are known as peptidyl prolyl isomerases. The isomerase activity plays an important role in a number of biological processes including, for example, folding of proteins to confer certain 3-dimensional configurations. Additionally, specific host cyclophilins (e.g., cyclophilin A, B, C, D) play a role in the pathogenesis of many diseases, including liver disease and viral hepatitis.

Cyclophilins are pleiotropic enzymes that play a role in injury and steatosis through mechanisms including cell death occurring through mitochondrial pore permeability (cyclophilin D). Inhibition of cyclophilin D, therefore, may play an important role in protection from cell death. Cyclophilin A binding to CD147 is known to play a role in inflammation, cyclophilin B plays a role in fibrosis through collagen production, and cyclophilins also play a role in cirrhosis and cancer (e.g., cell proliferation and metastasis). Cyclophilin inhibition with CRV431, therefore, may play an important role in reducing liver disease.

Important risk factors for development of liver disease include viral hepatitis (HBV, HCV, HDV), alcohol, and non-alcoholic fatty liver disease (NAFLD) and the more aggressive form called non-alcoholic steatohepatitis (NASH). The life cycle of certain viruses, including for example, HBV, HIV, and hepatitis C virus ("HCV") infections is dependent on host proteins (cyclophilins) for the role they play in the virus life cycle and propagation of the virus. CRV431 has been developed to inhibit the role of host cyclophilins and therefore interfere in the propagation of these viruses. CRV431 does not directly target the virus and, as such, should be less susceptible to drug resistance, borne from viral mutations.

Thus far, *in vitro* testing of CRV431 has been conducted in-house and in collaboration with external groups including for example, the Scripps Research Institute ("Scripps"). Data in various cell lines of either transfected or infected HBV demonstrates nanomolar efficacy (EC50 values) and micromolar toxicity (CC50 values). The selective index (SI), therefore, is wide and suggests that CRV431 presents a viable clinical drug candidate for the treatment of viral infections, including HBV. Additional testing in a transgenic mouse model of HBV indicated that CRV431 reduced HBV DNA in the liver. CRV431 is orally active and appears to be well tolerated.

On May 10, 2018, we submitted an IND to the FDA to support initiation of our CRV431 HBV clinical development program in the United States and received approval in June 2018. We completed the first segment of our Phase 1 clinical activities for CRV431 in October 2018.

On October 18, 2018, we reached a major clinical milestone of positive data from a Phase I trial of CRV431 in humans. This achievement triggered the first milestone payment as stated in the Merger Agreement for the acquisition of Ciclofilin Pharmaceuticals, Inc. ("Ciclofilin") in June 2016. In October 2018, we also paid a related milestone payment of \$1,000,000 to the Ciclofilin shareholders and issued 100,723 shares (approximately \$55,000 value on the date of issuance) of our common stock, representing 2.5% of our issued and outstanding common stock as of June, 2016.

## **TXL**

TXL is a novel lipid acyclic nucleoside phosphonate that is designed to deliver high intracellular concentrations of the active antiviral agent tenofovir diphosphate. TXL's novel structure results in decreased circulating levels of tenofovir (TFV), lowering systemic exposure and thereby reducing the potential for renal side effects. We have completed Phase 1 and Phase 2 clinical trials in healthy volunteers and HBV patients, demonstrating an efficacious agent with favorable safety and tolerability profile. We are continuing the development of TXL for the treatment of chronic Hepatitis B (HBV) infection.

In 2015, we licensed TXL from Chimerix in exchange for an upfront payment of 120,000 shares of our preferred stock, valued at \$1.2 million at the (time of the deal). A recently issued composition of matter patent for TXL provides intellectual property protection to at least 2031.

We completed a Phase 1b safety and pharmacokinetic study in 2016. Data from the Phase 1b study demonstrate that TXL was safe and well tolerated by healthy volunteers in all dosing groups. We also completed a Phase 2a multiple ascending dose proof of concept clinical trial. The study enrolled 62 treatment-naïve patients with chronic HBV infection and compared TXL to the standard dose of TDF. Data from the Phase 2a study demonstrated that TXL was safe and well tolerated by patients with chronic HBV infection in all dosing groups.

The data in the Phase 2a study demonstrated that doses of TXL from 50-mg to 100-mg resulted in comparable mean HBV viral load reductions to the 300-mg dose of TDF after 28 days of treatment. The data demonstrated that TXL at all doses tested, resulted in substantially lower systemic circulating levels of tenofovir in the blood compared to levels observed after dosing with TDF. These results demonstrate the potential for TXL to reduce the risk of bone and kidney-related toxicities associated with TDF.

We submitted an IND to the FDA to support initiation of our HBV clinical development program in the United States and received a notice of approval in September 2017.

We conducted a safety study in patients with severe renal impairment during the fourth quarter of 2017. The study comprised 16 subjects including 8 healthy subjects with normal kidney functions and 8 subjects with severely impaired kidney function. Results from the study confirmed that TXL was safe and well tolerated in both patient groups. Importantly, the data showed that the blood concentrations of tenofovir (TFV) in severely renally-impaired subjects receiving 50 mg of TXL were similar to the TFV exposure levels observed after dosing of Viread 300 mg. These findings indicate that dosing strength adjustments of TXL is not warranted in patients with compromised renal function. Data from the study provided further support on the strong safety profile of TXL in patients with comorbidities. Additionally, we received approval for our Clinical Trial Application ("CTA") in the United Kingdom.

On January 8, 2018, we met with the FDA's Division of Antiviral Products at the Center for Drug Evaluation and Research, to review and discuss the data generated for TXL to date, as well as the data package that would be required for the filing of an NDA and successful registration of TXL in the U.S. leveraging the 505(b)(2) regulatory pathway. The 505(b)(2) regulatory pathway allows us to rely upon FDA's previous findings of safety and efficacy of an approved and marketed product to supplement its own safety and efficacy data, and may be considered in the review by the FDA of a future New Drug Application (NDA). On February 12, 2018, we received agreement from the FDA allowing us to utilize the 505(b)(2) regulatory pathway to streamline the

development and registration of TXL B. On February 22, 2018, the FDA granted Orphan Drug Designation to TXL for the treatment of chronic hepatitis B infection in a pediatric patient population (0 to 11 years old).

We have made the decision to out-license/partner TXL, as TXL is in late-stage clinical trials which would consume many important company resources. Importantly, we are aligning our programs to address the broader needs of treating liver diseases including NASH, fibrosis, and HCC while also addressing an important risk factor for the development of such diseases (i.e., HBV infection). For this reason, we will focus resources and development programs on further advancing CRV431 while seeking partnership opportunities for TXL

### **The Securities We May Offer**

We may offer shares of our common stock and preferred stock, various series of debt securities and warrants to purchase any of such securities, either individually or in units, from time to time under this prospectus, together with any applicable prospectus supplement and related free writing prospectus, at prices and on terms to be determined by market conditions at the time of offering. If we issue any debt securities at a discount from their original stated principal amount, then, for purposes of calculating the total dollar amount of all securities issued under this prospectus, we will treat the initial offering price of the debt securities as the total original principal amount of the debt securities. Each time we offer securities under this prospectus, we will provide offerees with a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities being offered, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity, if applicable;
- original issue discount, if any;
- rates and times of payment of interest or dividends, if any;
- redemption, conversion, exchange or sinking fund terms, if any;
- conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
- ranking;
- restrictive covenants, if any;
- voting or other rights, if any; and
- important United States federal income tax considerations.

A prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

We may sell the securities to or through underwriters, dealers or agents or directly to purchasers. We, as well as any agents acting on our behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Each prospectus supplement will set forth the names of any underwriters, dealers or agents involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them, details regarding any over-allotment option granted to them, and net proceeds to us. The following is a summary of the securities we may offer with this prospectus.

### **Common Stock**

We currently have authorized 120,000,000 shares of common stock, par value \$0.0001 per share. As of December 31, 2018, 16,608,512 shares of common stock were issued and outstanding. We may offer shares of our common stock either alone or underlying other registered securities convertible into or exercisable for our common stock. Holders of our common stock are entitled to such dividends as our board of directors (the "Board of Directors" or "Board") may declare from time to time out of legally available funds, subject to the preferential rights of the holders of any shares of our preferred stock that are outstanding or that we may issue in the future. Currently, we do not pay any dividends on our common stock. Each holder of our common stock is entitled to one vote per share. In this prospectus, we provide a general description of, among other things, the rights and restrictions that apply to holders of our common stock.

### **Preferred Stock**

We currently have authorized 20,000,000 shares of preferred stock, par value \$0.0001. 1,250,000 of such shares are designated as Series A convertible preferred stock and 11,000 of such shares are designated as Series C convertible preferred stock. As of December 31, 2018, there were 85,581 shares of Series A convertible preferred stock outstanding and 1,974 shares of Series C convertible preferred stock outstanding. Any authorized and undesignated shares of preferred stock may be issued from time to time in one or more additional series pursuant to a resolution or resolutions providing for such issue duly adopted by our Board of Directors (authority to do so being hereby expressly vested in the Board of Directors). The Board of Directors is further authorized, subject to limitations prescribed by law, to fix by resolution or resolutions the designations, powers, preferences and rights, and the qualifications, limitations or restrictions thereof, of any wholly unissued series of preferred stock, including without limitation authority to fix by resolution or resolutions the dividend rights, dividend rate, conversion rights, voting rights, rights and terms of redemption (including sinking fund provisions), redemption price or prices, and liquidation preferences of any such series, and the number of shares constituting any such series and the designation thereof, or any of the foregoing.

The rights, preferences, privileges and restrictions granted to or imposed upon any series of preferred stock that we offer and sell under this prospectus and applicable prospectus supplements will be set forth in a certificate of designation relating to the series. We will incorporate by reference into the registration statement of which this prospectus is a part the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of shares of that series of preferred stock. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

### **Debt Securities**

We may offer general debt obligations, which may be secured or unsecured, senior or subordinated and convertible into shares of our common stock. In this prospectus, we refer to the senior debt securities and the subordinated debt securities together as the "debt securities." We may issue debt securities under a note purchase agreement or under an indenture to be entered between us and a trustee; forms of the senior and subordinated indentures are included as an exhibit to the registration statement of which this prospectus is a part. The indentures do not limit the amount of securities that may be issued under it and provides that debt securities may be issued in one or more series. The senior debt securities will have the same rank as all of our other indebtedness that is not subordinated. The subordinated debt securities will be subordinated to our senior debt on terms set forth in the applicable prospectus supplement. In addition, the subordinated debt securities will be effectively subordinated to creditors and preferred stockholders of our subsidiaries. Our Board of Directors will determine the terms of each

series of debt securities being offered. This prospectus contains only general terms and provisions of the debt securities. The applicable prospectus supplement will describe the particular terms of the debt securities offered thereby. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of debt securities being offered, as well as the complete note agreements and/or indentures that contain the terms of the debt securities. Forms of indentures have been filed as exhibits to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of debt securities being offered will be incorporated by reference into the registration statement of which this prospectus is a part from reports we file with the SEC.

## **Warrants**

We may offer warrants for the purchase of shares of our common stock or preferred stock or of debt securities. We may issue the warrants by themselves or together with common stock, preferred stock or debt securities, and the warrants may be attached to or separate from any offered securities. Any warrants issued under this prospectus may be evidenced by warrant certificates. Warrants may be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent. Our Board of Directors will determine the terms of the warrants. This prospectus contains only general terms and provisions of the warrants. The applicable prospectus supplement will describe the particular terms of the warrants being offered thereby. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of warrants being offered, as well as the complete warrant agreements that contain the terms of the warrants. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference into the registration statement of which this prospectus is a part from reports we file with the SEC.

## **Units**

We may offer units consisting of our common stock or preferred stock, debt securities and/or warrants to purchase any of these securities in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units. This prospectus contains only a summary of certain general features of the units. The applicable prospectus supplement will describe the particular features of the units being offered thereby. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and will be incorporated by reference into the registration statement of which this prospectus is a part from reports we file with the SEC.

## **Corporate Information**

We were incorporated in Delaware on May 15, 2013 for the purpose of holding certain FV-100 assets of Synergy Pharmaceuticals Inc., or Synergy. We were a majority-owned subsidiary of Synergy Pharmaceuticals Inc. ("Synergy") until February 18, 2014, the date Synergy completed the spinout of our shares of common stock. Our principal executive offices are located at 399 Thornall Street, First Floor, Edison, New Jersey 08837. Our telephone number is (732) 902-4000 and our website address is [www.contravir.com](http://www.contravir.com). The information on our website is not a part of, and should not be construed as being incorporated by reference into, this registration statement or the accompanying prospectus.

## **RISK FACTORS**

An investment in our securities involves a high degree of risk. This prospectus contains, and the prospectus supplement applicable to each offering of our securities, will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading "Risk Factors" in this prospectus and the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under Item 1A, "Risk Factors," in our Transition Report on [Form 10-KT](#)

[for the transition period from July 1, 2017 to December 31, 2017, filed with the SEC on March 26, 2018](#), and any updates described in our Quarterly Reports on Form 10-Q, all of which are incorporated herein by reference, and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future and any prospectus supplement related to a particular offering. 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 known or unknown risks might cause you to lose all or part of your investment in the offered securities.

## FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplement, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Any statements in this prospectus and any accompanying prospectus supplement about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements. These statements are often, but not always, made through the use of words or phrases such as “believe,” “will,” “expect,” “anticipate,” “estimate,” “intend,” “plan” and “would.” For example, statements concerning financial condition, possible or assumed future results of operations, growth opportunities, industry ranking, plans and objectives of management, markets for our common stock and future management and organizational structure are all forward-looking statements. Forward-looking statements are not guarantees of performance. They involve known and unknown risks, uncertainties and assumptions that may cause actual results, levels of activity, performance or achievements to differ materially from any results, levels of activity, performance or achievements expressed or implied by any forward-looking statement.

Any forward-looking statements are qualified in their entirety by reference to the risk factors discussed throughout this prospectus and any accompanying prospectus supplement. Some of the risks, uncertainties and assumptions that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include, but are not limited to:

- Market conditions;
- Our capital position;
- Our ability to compete with larger better financed pharmaceutical companies;
- Our uncertainty of developing marketable products;
- Our ability to develop and commercialize our products;
- Our ability to obtain regulatory approvals;
- Our ability to maintain and protect intellectual property rights;
- The inability to raise additional future financing and lack of financial and other resources;
- Our ability to control product development costs;
- We may not be able to attract and retain key employees;
- We may not be able to compete effectively;
- We may not be able enter into new strategic collaborations;
- Changes in government regulation affecting product candidates could increase our development costs;
- Our involvement in patent and other intellectual property litigation could be expensive and could divert management’s attention;
- The possibility that there will be no market acceptance for our products; and
- Changes in third-party reimbursement policies could adversely affect potential future sales of any of our products that are approved for marketing.

The foregoing list sets forth some, but not all, of the factors that could affect our ability to achieve results described in any forward-looking statements. You should read this prospectus and any accompanying prospectus supplement and the documents that we reference herein and therein and have filed as exhibits to the registration statement, of which this prospectus is part, completely and with the understanding that our actual future results may be materially different from what we expect. You should assume that the information appearing in this prospectus and any accompanying prospectus supplement is accurate as of the date on the front cover of this prospectus or such prospectus supplement only. Because the risk factors referred to on page 6 of this prospectus and incorporated herein by reference, could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ

materially from those contained in any forward-looking statements. We qualify all of the information presented in this prospectus and any accompanying prospectus supplement, and particularly our forward-looking statements, by these cautionary statements.

## USE OF PROCEEDS

Except as described in any prospectus supplement and any free writing prospectus in connection with a specific offering, we currently intend to use the net proceeds from the sale of the securities offered under this prospectus for general corporate purposes, including the development and commercialization of our products, research and development, general and administrative expenses, license or technology acquisitions, and working capital and capital expenditures. We may also use the net proceeds to repay any debts and/or invest in or acquire complementary businesses, products or technologies, although we have no current commitments or agreements with respect to any such investments or acquisitions as of the date of this prospectus. We have not determined the amount of net proceeds to be used specifically for the foregoing purposes. As a result, our management will have broad discretion in the allocation of the net proceeds and investors will be relying on the judgment of our management regarding the application of the proceeds of any sale of the securities. Pending use of the net proceeds, we intend to invest the proceeds in short-term, investment-grade, interest-bearing instruments.

Each time we offer securities under this prospectus, we will describe the intended use of the net proceeds from that offering in the applicable prospectus supplement. The actual amount of net proceeds we spend on a particular use will depend on many factors, including, our future capital expenditures, the amount of cash required by our operations, and our future revenue growth, if any. Therefore, we will retain broad discretion in the use of the net proceeds.

## DESCRIPTION OF CAPITAL STOCK

### General

The following description of our capital stock, together with any additional information we include in any applicable prospectus supplement or any related free writing prospectus, summarizes the material terms and provisions of our common stock and the preferred stock that we may offer under this prospectus. While the terms we have summarized below will apply generally to any future common stock or preferred stock that we may offer, we will describe the particular terms of any class or series of these securities in more detail in the applicable prospectus supplement. For the complete terms of our common stock and preferred stock, please refer to our Certificate of Incorporation, as amended (the "Certificate of Incorporation") and our bylaws, as amended (the "Bylaws") that are incorporated by reference into the registration statement of which this prospectus is a part or may be incorporated by reference in this prospectus or any applicable prospectus supplement. The terms of these securities may also be affected by Delaware General Corporation Law ("DGCL"). The summary below and that contained in any applicable prospectus supplement or any related free writing prospectus are qualified in their entirety by reference to our Certificate of Incorporation and our amended and restated bylaws.

As of the date of this prospectus, our authorized capital stock consisted of 120,000,000 shares of common stock, \$0.0001 par value per share, and 20,000,000 shares of preferred stock. Our Board may establish the rights and preferences of the preferred stock from time to time. As of December 31, 2018, there were 16,608,512 shares of our common stock issued and outstanding, 85,581 shares of Series A convertible preferred stock outstanding and 1,974 shares of Series C convertible preferred stock outstanding.

### Common Stock

Holders of our common stock are entitled to one vote per share. Our Certificate of Incorporation, does not provide for cumulative voting. Holders of our common stock are entitled to receive ratably such dividends, if any, as may be declared by our Board out of legally available funds. However, the current policy of our Board is to retain earnings, if any, for the operation and expansion of our company. Upon liquidation, dissolution or winding-up, the holders of our common stock are entitled to share ratably in all of our assets which are legally available for distribution, after payment of or provision for all liabilities.

The holders of our common stock have no preemptive, subscription, redemption or conversion rights.

### Preferred Stock

Our Certificate of Incorporation provides that our Board may by resolution, without further vote or action by the stockholders, establish one or more classes or series of preferred stock having the number of shares and relative voting rights, designation, dividend rates, liquidation, and other rights, preferences, and limitations as may be fixed by them without further stockholder approval. Once designated by our Board, each series of preferred stock will have specific financial and other terms that will be described in a prospectus supplement. The description of the preferred stock that is set forth in any prospectus supplement is not complete without reference to the documents that govern the preferred stock. These include our Certificate of Incorporation and any certificates of designation that the Board may adopt. Prior to the issuance of shares of each series of preferred stock, the Board is required by the DGCL and the Certificate of Incorporation to adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation fixes for each class or series the designations, powers, preferences, rights, qualifications, limitations and restrictions, including, but not limited to, some or all of the following:

- the distinctive designation of such series and the number of shares which shall constitute such series, which number may be increased (except where otherwise provided by the Board in creating such series) or decreased (but not below the number of shares thereof then outstanding) from time to time by resolution of the Board;
- the rate and manner of payment of dividends payable on shares of such series, including the dividend rate, date of declaration and payment, whether dividends shall be cumulative, and the conditions upon which and the date from which such dividends shall be cumulative;

- whether shares of such series shall be redeemed, the time or times when, and the price or prices at which, shares of such series shall be redeemable, the redemption price, the terms and conditions of redemption, and the sinking fund provisions, if any, for the purchase or redemption of such shares;
- the amount payable on shares of such series and the rights of holders of such shares in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Company;
- the rights, if any, of the holders of shares of such series to convert such shares into, or exchange such shares for, shares of common stock, other securities, or shares of any other class or series of preferred stock and the terms and conditions of such conversion or exchange;
- the voting rights, if any, and whether full or limited, of the shares of such series, which may include no voting rights, one vote per share, or such higher number of votes per share as may be designated by the Board; and
- the preemptive or preferential rights, if any, of the holders of shares of such series to subscribe for, purchase, receive, or otherwise acquire any part of any new or additional issue of stock of any class, whether now or hereafter authorized, or of any bonds, debentures, notes, or other securities of the Company, whether or not convertible into shares of stock with the Company.

The issuance of preferred stock may delay, deter or prevent a change in control.

The description of preferred stock above and the description of the terms of a particular series of preferred stock in any applicable prospectus supplement are not complete. You should refer to any applicable certificate of designation for complete information.

The DGCL, the state of our incorporation, provides that the holders of preferred stock will have the right to vote separately as a class on any proposal involving fundamental changes in the rights of holders of that preferred stock. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

All shares of preferred stock offered hereby will, when issued, be fully paid and nonassessable, including shares of preferred stock issued upon the exercise of preferred stock warrants or subscription rights, if any.

Although our Board has no intention at the present time of doing so, it could authorize the issuance of a series of preferred stock that could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt.

### **Series A Preferred Stock**

On October 14, 2014, we filed a Certificate of Designation, Preference and Rights of Series A Convertible Preferred Stock (the "Series A Preferred Stock") with the Secretary of State of the State of Delaware. The number of shares of Series A Preferred Stock designated is 1,250,000 and each share of Series A Preferred Stock has a stated value equal to \$10.00 (the "Series A Stated Value").

*Voting Rights.* Except as otherwise provided therein and as otherwise prohibited by law, the Series A Preferred Stock shall have voting rights on an as converted basis. So long as any shares of Series A Preferred Stock are outstanding, the Company shall not, without the affirmative vote of the Holders of the shares of the Series A Preferred Stock then outstanding, (a) alter or change adversely the powers, preferences or rights given to the Series A Preferred Stock or alter or amend the Certificate of Designation, (b) authorize or create any class of stock ranking as to dividends, redemption or distribution of assets upon a Series A Liquidation (as defined herein) senior to or otherwise pari passu with the Series A Preferred Stock, or (c) enter into any agreement with respect to the foregoing.

*Liquidation.* Upon any liquidation, dissolution or winding-up of the Company, whether voluntary or involuntary (a "Series A Liquidation"), the holders shall be entitled to receive out of the assets of the Company, whether such assets are capital or surplus, for each share of Series A Preferred Stock an amount equal to 100% of the Series A Stated Value per share plus any other fees or liquidated damages owing thereon before any distribution or payment shall be made to the holders of any junior securities, and if the assets of the Company shall be insufficient to pay in full such amounts, then the entire assets to be distributed to the holders shall be distributed

among the holders ratably in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full.

*Conversions at Option of Holder.* Each share of Series A Preferred Stock shall be convertible into that number of shares of Common Stock determined by dividing the Series A Stated Value of such share of Series A Preferred Stock by \$3.84 (the "Series A Conversion Price"), at the option of the holder, at any time and from time to time from and after October 14, 2014.

*Subsequent Equity Sales.* If, at any time while this Series A Preferred Stock is outstanding, the Company sells or grants any option to purchase or sells or grants any right to reprice its securities, or otherwise disposes of or issues (or announces any sale, grant or any option to purchase or other disposition) any common stock or common stock equivalents entitling any person to acquire shares of common stock (a "Series A Subsequent Financing") at an effective price per share that is lower than the then Series A Conversion Price (such lower price, the "Series A Base Conversion Price" and such issuances collectively, a "Series A Dilutive Issuance") (if the holder of the common stock or common stock equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive shares of common stock at an effective price per share that is lower than the Series A Conversion Price, such issuance shall be deemed to have occurred for less than the Series A Conversion Price on such date of the Series A Dilutive Issuance), the Series A Conversion Price then in effect shall be reduced to the Series A Base Conversion Price. The holder's rights under this section shall terminate upon the Company completing a Series A Subsequent Financing at an effective price per share equal to or greater than the Series A Conversion Price then in effect which results in minimum gross proceeds to the Company of \$20 million.

*Registration Rights.* In the event we close a Series A Subsequent Financing of common or preferred stock, which does not include any warrants or convertible securities, at an effective price per share that is lower than 160% ("Series A Premium Price") of the then Series A Conversion Price (the "Series A Registration Price") and the purchasers of the securities in the Series A Subsequent Financing are given registration rights for such securities or such securities are issued on a registered basis, the holders shall receive at such time (i) equivalent registration rights for the Series A Preferred Stock and the shares issuable upon conversion of the Series A Preferred Stock in the event purchasers of the securities in the Series A Subsequent Financing receive registration rights or (ii) demand registration rights in the event purchasers of the securities in the Series A Subsequent Financing receive registered shares. In the event, the Series A Subsequent Financing includes warrants or other convertible securities, the Series A Premium Price shall increase by 1% for every 1% of warrant or other convertible security coverage in the Subsequent Financing. The holder's rights under this section shall terminate upon us completing a Series A Subsequent Financing at an effective price per share equal to or greater than the Series A Registration Price which results in minimum gross proceeds to us of \$20 million.

### **Series C Convertible Preferred Stock**

On July 2, 2018, we filed a Certificate of Designation, Preference and Rights of Series C Convertible Preferred Stock (the "Series C Convertible Preferred Stock") with the Secretary of State of the State of Delaware. The number of shares of Series C Convertible Preferred Stock designated is 11,000.

*Conversion.* Each share of Series C Convertible Preferred Stock is convertible at the option of the holder at any time, into the number of shares of our common stock determined by dividing the \$1,000 stated value per share of the Series C Convertible Preferred Stock by a conversion price of \$1.55 per share. In addition, the conversion price per share is subject to adjustment for stock dividends, distributions, subdivisions, combinations or reclassifications. Subject to limited exceptions, a holder of the Series C Convertible Preferred Stock does not have the right to convert any portion of the Series C Convertible Preferred Stock to the extent that, after giving effect to the conversion, the holder, together with its affiliates, would beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to its conversion.

*Fundamental Transactions.* In the event we effect certain mergers, consolidations, sales of substantially all of our assets, tender or exchange offers, reclassifications or share exchanges in which our common stock is effectively converted into or exchanged for other securities, cash or property, we consummate a business combination in which

another person acquires 50% of the outstanding shares of our common stock, or any person or group becomes the beneficial owner of 50% of the aggregate ordinary voting power represented by our issued and outstanding common stock, then, upon any subsequent conversion of the Series C Convertible Preferred Stock, the holders of the Series C Convertible Preferred Stock will have the right to receive any shares of the acquiring corporation or other consideration it would have been entitled to receive if it had been a holder of the number of shares of common stock then issuable upon conversion in full of the Series C Convertible Preferred Stock.

*Dividends.* Holders of Series C Convertible Preferred Stock shall be entitled to receive dividends (on an as-if-converted-to-common-stock basis) in the same form as dividends actually paid on shares of the common stock when, as and if such dividends are paid on shares of common stock.

*Voting Rights.* Except as otherwise provided in the certificate of designation or as otherwise required by law, the Series C Convertible Preferred Stock has no voting rights.

*Liquidation Preference.* Upon our liquidation, dissolution or winding-up, whether voluntary or involuntary, holders of Series C Convertible Preferred Stock will be entitled to receive out of our assets, whether capital or surplus, the same amount that a holder of common stock would receive if the Series C Preferred Stock were fully converted.

*Redemption Rights.* We are not obligated to redeem or repurchase any shares of Series C Convertible Preferred Stock. Shares of Series C Convertible Preferred Stock are not otherwise entitled to any redemption rights, or mandatory sinking fund or analogous provisions.

#### **Anti-Takeover Effects of Certain Provisions of our Certificate of Incorporation, Bylaws and the DGCL**

Certain provisions of our Certificate of Incorporation and amended and restated bylaws, which are summarized in the following paragraphs, may have the effect of discouraging potential acquisition proposals or making a tender offer or delaying or preventing a change in control, including changes a stockholder might consider favorable. Such provisions may also prevent or frustrate attempts by our stockholders to replace or remove our management. In particular, the Certificate of Incorporation and amended and restated bylaws and Delaware law, as applicable, among other things:

- provide the board of directors with the ability to alter the bylaws without stockholder approval;
- place limitations on the removal of directors; and
- provide that vacancies on the board of directors may be filled by a majority of directors in office, although less than a quorum.

These provisions are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of us to first negotiate with its board. These provisions may delay or prevent someone from acquiring or merging with us, which may cause our market price of our common stock to decline.

*Blank Check Preferred.* Our Board is authorized to create and issue from time to time, without stockholder approval, up to an aggregate of 20,000,000 shares of preferred stock in one or more series and to establish the number of shares of any series of preferred stock and to fix the designations, powers, preferences and rights of the shares of each series and any qualifications, limitations or restrictions of the shares of each series.

The authority to designate preferred stock may be used to issue series of preferred stock, or rights to acquire preferred stock, that could dilute the interest of, or impair the voting power of, holders of the common stock or could also be used as a method of determining, delaying or preventing a change of control.

*Advance Notice Bylaws.* The Bylaws contain an advance notice procedure for stockholder proposals to be brought before any meeting of stockholders, including proposed nominations of persons for election to our Board of Directors. Stockholders at any meeting will only be able to consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our Board of Directors or by a stockholder who was a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who

has given our corporate secretary timely written notice, in proper form, of the stockholder's intention to bring that business before the meeting. Although the Bylaws do not give our Board of Directors the power to approve or disapprove stockholder nominations of candidates or proposals regarding other business to be conducted at a special or annual meeting, the Bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempting to obtain control of us.

*Interested Stockholder Transactions.* We are subject to Section 203 of the DGCL which, subject to certain exceptions, prohibits "business combinations" between a publicly-held Delaware corporation and an "interested stockholder," which is generally defined as a stockholder who becomes a beneficial owner of 15% or more of a Delaware corporation's voting stock for a three-year period following the date that such stockholder became an interested stockholder.

#### **Limitations on Liability, Indemnification of Officers and Directors and Insurance**

The DGCL authorizes corporations to limit or eliminate the personal liability of directors to corporations and their stockholders for monetary damages for breaches of directors' fiduciary duties as directors and our amended and restated certificate of incorporation will include such an exculpation provision. Our certificate of incorporation and by-laws will include provisions that indemnify, to the fullest extent allowable under the DGCL, the personal liability of directors or officers for monetary damages for actions taken as a director or officer of us, or for serving at our request as a director or officer or another position at another corporation or enterprise, as the case may be. Our certificate of incorporation and by-laws will also provide that we must indemnify and advance reasonable expenses to our directors and officers, subject to our receipt of an undertaking from the indemnified party as may be required under the DGCL. Our Certificate of Incorporation expressly authorizes us to carry directors' and officers' insurance to protect us, our directors, officers and certain employees for some liabilities. The limitation of liability and indemnification provisions in our Certificate of Incorporation and by-laws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duty. These provisions may also have the effect of reducing the likelihood of derivative litigation against our directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. However, these provisions do not limit or eliminate our rights, or those of any stockholder, to seek non-monetary relief such as injunction or rescission in the event of a breach of a director's duty of care. The provisions will not alter the liability of directors under the federal securities laws. In addition, your investment may be adversely affected to the extent that, in a class action or direct suit, we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. There is currently no pending material litigation or proceeding against any of our directors, officers or employees for which indemnification is sought.

#### **Authorized but Unissued Shares**

Our authorized but unissued shares of common stock and preferred stock will be available for future issuance without your approval. We may use additional shares for a variety of purposes, including future public offerings to raise additional capital, to fund acquisitions and as employee compensation. The existence of authorized but unissued shares of common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

#### **Transfer Agent and Registrar**

The Transfer Agent and Registrar for our common stock is Philadelphia Stock Transfer, Inc.

## DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements or free writing prospectuses, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any future debt securities we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement or free writing prospectus. The terms of any debt securities we offer under a prospectus supplement may differ from the terms we describe below. However, no prospectus supplement shall fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness. As of the date of this prospectus, we have no outstanding registered debt securities. Unless the context requires otherwise, whenever we refer to the "indentures," we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue any senior debt securities under the senior indenture that we will enter into with the trustee named in the senior indenture. We will issue any subordinated debt securities under the subordinated indenture and any supplemental indentures that we will enter into with the trustee named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement, of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The indentures will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We use the term "trustee" to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all of the provisions of the indenture and any supplemental indentures applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indentures that contains the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior indenture and the subordinated indenture are identical.

### General

The terms of each series of debt securities will be established by or pursuant to a resolution of our Board of Directors and set forth or determined in the manner provided in an officers' certificate or by a supplemental indenture. Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series. We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title;
- the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;
- any limit on the amount that may be issued;
- whether or not we will issue the series of debt securities in global form, and, if so, the terms and who the depository will be;
- the maturity date;
- whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a United States person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;
- the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- the terms of the subordination of any series of subordinated debt;
- the place where payments will be made;
- restrictions on transfer, sale or other assignment, if any;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- provisions for a sinking fund purchase or other analogous fund, if any, including the date, if any, on which, and the price at which we are obligated, pursuant thereto or otherwise, to redeem, or at the holder's option, to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- whether the indenture will restrict our ability or the ability of our subsidiaries to:
  - incur additional indebtedness;
  - issue additional securities;
  - create liens;
  - pay dividends or make distributions in respect of our capital stock or the capital stock of our subsidiaries;
  - redeem capital stock;
  - place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;
  - make investments or other restricted payments;
  - sell or otherwise dispose of assets;
  - enter into sale-leaseback transactions;
  - engage in transactions with stockholders or affiliates;
  - issue or sell stock of our subsidiaries; or
  - effect a consolidation or merger;
- whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;
- a discussion of certain material or special United States federal income tax considerations applicable to the debt securities;
- information describing any book-entry features;
- the applicability of the provisions in the indenture on discharge;
- whether the debt securities are to be offered at a price such that they will be deemed to be offered at an "original issue discount" as defined in paragraph (a) of Section 1273 of the Internal Revenue Code of 1986, as amended;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations.

#### **Conversion or Exchange Rights**

We will set forth in the applicable prospectus supplement the terms under which a series of debt securities may be convertible into or exchangeable for our common stock, our preferred stock or other securities (including securities of a third party). We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock, our preferred stock or other securities (including securities of a third party) that the holders of the series of debt securities receive would be subject to adjustment.

## Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indentures will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate. If the debt securities are convertible into or exchangeable for our other securities or securities of other entities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

## Events of Default under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indentures with respect to any series of debt securities that we may issue:

- if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended;
- if we fail to pay the principal, premium or sinking fund payment, if any, when due and payable at maturity, upon redemption or repurchase or otherwise, and the time for payment has not been extended;
- if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the trustee or we and the trustee receive notice from the holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

We will describe in each applicable prospectus supplement any additional events of default relating to the relevant series of debt securities.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default arises due to the occurrence of certain specified bankruptcy, insolvency or reorganization events, the unpaid principal, premium, if any, and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity or security satisfactory to it against any loss, liability or expense. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and

- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

The indentures provide that if an event of default has occurred and is continuing, the trustee will be required in the exercise of its powers to use the degree of care that a prudent person would use in the conduct of its own affairs. The trustee, however, may refuse to follow any direction that conflicts with law or the indenture, or that the trustee determines is unduly prejudicial to the rights of any other holder of the relevant series of debt securities, or that would involve the trustee in personal liability. Prior to taking any action under the indentures, the trustee will be entitled to indemnification against all costs, expenses and liabilities that would be incurred by taking or not taking such action.

A holder of the debt securities of any series will have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies only if:

- the holder has given written notice to the trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made a written request and such holders have offered reasonable indemnity to the trustee or security satisfactory to it against any loss, liability or expense or to be incurred in compliance with instituting the proceeding as trustee; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities, or other defaults that may be specified in the applicable prospectus supplement.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indentures.

The indentures provide that if a default occurs and is continuing and is actually known to a responsible officer of the trustee, the trustee must mail to each holder notice of the default within the earlier of 90 days after it occurs and 30 days after it is known by a responsible officer of the trustee or written notice of it is received by the trustee, unless such default has been cured or waived. Except in the case of a default in the payment of principal or premium of, or interest on, any debt security or certain other defaults specified in an indenture, the trustee shall be protected in withholding such notice if and so long as the Board of Directors, the executive committee or a trust committee of directors, or responsible officers of the trustee, in good faith determine that withholding notice is in the best interests of holders of the relevant series of debt securities.

#### **Modification of Indenture; Waiver**

Subject to the terms of the indenture for any series of debt securities that we may issue, we and the trustee may change an indenture without the consent of any holders with respect to the following specific matters:

- to fix any ambiguity, defect or inconsistency in the indenture;
- to comply with the provisions described above under "Description of Debt Securities — Consolidation, Merger or Sale;"
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act;
- to add to, delete from or revise the conditions, limitations and restrictions on the authorized amount, terms or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to provide for the issuance of, and establish the form and terms and conditions of, the debt securities of any series as provided under "Description of Debt Securities — General," to establish the form of

any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;

- to evidence and provide for the acceptance of appointment hereunder by a successor trustee;
- to provide for uncertificated debt securities and to make all appropriate changes for such purpose;
- to add such new covenants, restrictions, conditions or provisions for the benefit of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred to us in the indenture; or
- to change anything that does not adversely affect the interests of any holder of debt securities of any series in any material respect.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, subject to the terms of the indenture for any series of debt securities that we may issue or otherwise provided in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may only make the following changes with the consent of each holder of any outstanding debt securities affected:

- extending the stated maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption or repurchase of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

## **Discharge**

Each indenture provides that, subject to the terms of the indenture and any limitation otherwise provided in the prospectus supplement applicable to a particular series of debt securities, we may elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, and any premium and interest on, the debt securities of the series on the dates payments are due.

## **Form, Exchange and Transfer**

We will issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depository named by us and identified in a prospectus supplement with respect to that series. See "Legal Ownership of Securities" below for a further description of the terms relating to any book-entry securities.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can

exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

### **Information Concerning the Trustee**

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture and is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur. However, upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs.

### **Payment and Paying Agents**

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest payment.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

## **Governing Law**

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

## **Ranking Debt Securities**

The subordinated debt securities will be unsecured and will be subordinate and junior in priority of payment to certain other indebtedness to the extent described in a prospectus supplement. The subordinated indenture does not limit the amount of subordinated debt securities that we may issue. It also does not limit us from issuing any other secured or unsecured debt.

The senior debt securities will be unsecured and will rank equally in right of payment to all our other senior unsecured debt. The senior indenture does not limit the amount of senior debt securities that we may issue. It also does not limit us from issuing any other secured or unsecured debt.

## **Existing Secured Debt**

On May 8, 2018 we entered into a securities purchase agreement (the "Securities Purchase Agreement") with Iliad Research and Trading, L.P. ("IRT"), pursuant to which we issued to IRT a secured convertible promissory note (the "Note") in the aggregate principal amount of \$3,325,000 for an aggregate purchase price of \$2,000,000 cash and \$1,000,000 aggregate principal amount of investor notes (the "Investor Notes") payable to us in four tranches of \$250,000 upon request by us. Closing occurred on May 9, 2018. The Note carries an original issue discount of \$300,000, and the initial principal balance of \$2,225,000 also includes original issue discount of \$200,000 and \$25,000 to cover IRT's transaction expenses. The Investor Notes have not been drawn as of January 31, 2019. The Note bears interest at the rate of 10% per annum and matures on November 8, 2019. Beginning on November 8, 2018, IRT has the right to redeem all or any portion of the Note up to the Maximum Monthly Redemption Amount which is \$500,000. Payments of each redemption amount may be made in cash or shares of our common stock at our election (so long as the various conditions to paying stock set forth in the Note are satisfied) provided, however, that if our common stock is trading below \$1.60 per share (as adjusted for the reverse stock split), the redemption(s) must be in cash. Common stock issued upon redemption will be issued at a price equal to 80% of the lowest trade price of the common stock for the 20 consecutive trading days prior to the date of redemption, subject to adjustments; provided, however, that in no event will the redemption price be less than \$1.60. As of December 31, 2018, approximately \$1.56 million aggregate principal amount of the Notes are outstanding.

We also entered into a security agreement with IRT, pursuant to which IRT received a security interest in substantially all of our assets, except for intellectual property. The Securities Purchase Agreement requires that we comply with certain non-financial covenants customary for financing of this nature which we complied with as of September 30, 2018.

## **DESCRIPTION OF WARRANTS**

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Warrants may be offered independently or together with common stock, preferred stock or debt securities offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We may issue the warrants under a warrant agreement that we will enter into with a warrant agent to be selected by us. If selected, the warrant agent will act solely as an agent of ours in connection with the warrants and will not act as an agent for the holders or beneficial owners of the warrants. If applicable, we will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, the form of warrant agreement, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering before the issuance of the related series of warrants. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. We urge you to read the applicable prospectus supplement and any applicable free writing prospectus related to the particular series of warrants that we sell under this prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

## General

We will describe in the applicable prospectus supplement the terms relating to a series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- United States federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including:

- in the case of warrants to purchase debt securities, the right to receive payments of principal of, or premium, if any, or interest on, the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture; or
- in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or, payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

## Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to us or the warrant agent as applicable.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

#### **Enforceability of Rights by Holders of Warrants**

If selected, each warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

#### **DESCRIPTION OF UNITS**

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the units that we may offer under this prospectus.

While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we sell under this prospectus, as well as the complete unit agreement and any supplemental agreements that contain the terms of the units.

#### **General**

We may issue units comprised of one or more debt securities, shares of common stock, shares of preferred stock and warrants in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock,” “Description of Debt Securities” and “Description of Warrants” will apply to each unit and to any common stock, preferred stock, debt security or warrant included in each unit, respectively.

### **Issuance in Series**

We may issue units in such amounts and in numerous distinct series as we determine.

### **Enforceability of Rights by Holders of Units**

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

We, the unit agents and any of their agents may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purpose and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary. See “Legal Ownership of Securities.”

## **LEGAL OWNERSHIP OF SECURITIES**

We can issue securities in registered form or in the form of one or more global securities. We describe global securities in greater detail below. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee or depository or warrant agent maintain for this purpose as the “holders” of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as “indirect holders” of those securities. As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

### **Book-Entry Holders**

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depository on behalf of other financial institutions that participate in the depository’s book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Global securities will be registered in the name of the depository or its participants. Consequently, for global securities, we will recognize only the depository as the holder of the securities, and we will make all payments on the securities to the depository. The depository passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depository and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a global security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depository’s

book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not legal holders, of the securities.

### **Street Name Holders**

We may terminate a global security or issue securities that are not issued in global form. In these cases, investors may choose to hold their securities in their own names or in "street name." Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we or any applicable trustee or depository will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and we or any such trustee or depository will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not legal holders, of those securities.

### **Legal Holders**

Our obligations, as well as the obligations of any applicable trustee or third party employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with its participants or customers or by law, to pass it along to the indirect holders but does not do so. Similarly, we may want to obtain the approval of the holders to amend an indenture, to relieve us of the consequences of a default or of our obligation to comply with a particular provision of an indenture, or for other purposes. In such an event, we would seek approval only from the legal holders, and not the indirect holders, of the securities. Whether and how the legal holders contact the indirect holders is up to the legal holders.

### **Special Considerations for Indirect Holders**

If you hold securities through a bank, broker or other financial institution, either in book-entry form because the securities are represented by one or more global securities or in street name, you should check with your own institution to find out:

- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holders' consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a legal holder, if that is permitted in the future;
- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are in book-entry form, how the depository's rules and procedures will affect these matters.

### **Global Securities**

A global security is a security that represents one or any other number of individual securities held by a depository. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we issue to, deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depository. Unless we specify otherwise in the applicable prospectus supplement, The Depository Trust Company, New York, New York, known as DTC, will be the depository for all securities issued in book-entry form.

A global security may not be transferred to or registered in the name of anyone other than the depository, its nominee or a successor depository, unless special termination situations arise. We describe those situations below under “— Special Situations When A Global Security Will Be Terminated.” As a result of these arrangements, the depository, or its nominee, will be the sole registered owner and legal holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depository or with another institution that does. Thus, an investor whose security is represented by a global security will not be a legal holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement for a particular security indicates that the security will be issued as a global security, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

### **Special Considerations For Global Securities**

As an indirect holder, an investor’s rights relating to a global security will be governed by the account rules of the investor’s financial institution and of the depository, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a holder of securities and instead deal only with the depository that holds the global security.

If securities are issued only as global securities, an investor should be aware of the following:

- an investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe below;
- an investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as we describe above;
- an investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form;
- an investor may not be able to pledge his or her interest in the global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;
- the depository’s policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor’s interest in the global security. We and any applicable trustee have no responsibility for any aspect of the depository’s actions or for its records of ownership interests in the global security. We and the trustee also do not supervise the depository in any way;
- the depository may, and we understand that DTC will, require that those who purchase and sell interests in the global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well; and
- financial institutions that participate in the depository’s book-entry system, and through which an investor holds its interest in the global security, may also have their own policies affecting payments, notices and other matters relating to the securities. There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries

## Special Situations When A Global Security Will Be Terminated

In a few special situations described below, a global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own names, so that they will be direct holders. We have described the rights of holders and street name investors above.

A global security will terminate when the following special situations occur:

- if the depository notifies us that it is unwilling, unable or no longer qualified to continue as depository for that global security and we do not appoint another institution to act as depository within 90 days;
- if we notify any applicable trustee that we wish to terminate that global security; or
- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The applicable prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the prospectus supplement. When a global security terminates, the depository, and neither we, nor any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

## PLAN OF DISTRIBUTION

We may sell the securities being offered hereby in one or more of the following ways from time to time:

- through agents to the public or to investors;
- to underwriters for resale to the public or to investors;
- negotiated transactions;
- block trades;
- directly to investors; or
- through a combination of any of these methods of sale.

As set forth in more detail below, the securities may be distributed from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

We will set forth in a prospectus supplement the terms of that particular offering of securities, including:

- the name or names of any agents or underwriters;
- the purchase price of the securities being offered and the proceeds we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents' or underwriters' compensation;
- any initial public offering price;
- any discounts or concessions allowed or re-allowed or paid to dealers; and
- any securities exchanges or markets on which such securities may be listed.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

If underwriters are used in an offering, we will execute an underwriting agreement with such underwriters and will specify the name of each underwriter and the terms of the transaction (including any underwriting discounts and other terms constituting compensation of the underwriters and any dealers) in a prospectus supplement. The securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more investment banking firms or others, as designated. If an underwriting syndicate is used, the managing underwriter(s) will be specified on the cover of the prospectus supplement. If underwriters are used in the sale, the offered securities will be acquired by the underwriters for their own accounts and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at

varying prices determined at the time of sale. Any public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time. Unless otherwise set forth in the prospectus supplement, the obligations of the underwriters to purchase the offered securities will be subject to conditions precedent and the underwriters will be obligated to purchase all of the offered securities if any are purchased.

We may grant to the underwriters options to purchase additional securities to cover over-allotments, if any, at the public offering price, with additional underwriting commissions or discounts, as may be set forth in a related prospectus supplement. The terms of any over-allotment option will be set forth in the prospectus supplement for those securities.

If we use a dealer in the sale of the securities being offered pursuant to this prospectus or any prospectus supplement, we will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

We may sell the securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, any agent will act on a best-efforts basis for the period of its appointment.

We may authorize agents or underwriters to solicit offers by institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

In connection with the sale of the securities, underwriters, dealers or agents may receive compensation from us or from purchasers of the common stock for whom they act as agents in the form of discounts, concessions or commissions. Underwriters may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agents. Underwriters, dealers and agents that participate in the distribution of the securities, and any institutional investors or others that purchase common stock directly and then resell the securities, may be deemed to be underwriters, and any discounts or commissions received by them from us and any profit on the resale of the common stock by them may be deemed to be underwriting discounts and commissions under the Securities Act.

We may provide agents and underwriters with indemnification against particular civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to such liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

In addition, we may enter into derivative transactions with third parties (including the writing of options), or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with such a transaction, the third parties may, pursuant to this prospectus and the applicable prospectus supplement, sell securities covered by this prospectus and the applicable prospectus supplement. If so, the third party may use securities borrowed from us or others to settle such sales and may use securities received from us to close out any related short positions. We may also loan or pledge securities covered by this prospectus and the applicable prospectus supplement to third parties, who may sell the loaned securities or, in an event of default in the case of a pledge, sell the pledged securities pursuant to this prospectus and the applicable prospectus supplement. The third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement or in a post-effective amendment.

To facilitate an offering of a series of securities, persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the market price of the securities. This may include over-allotments or short sales of the securities, which involves the sale by persons participating in the offering of more securities than have been sold to them by us. In those circumstances, such persons would cover such over-allotments or short positions by purchasing in the open market or by exercising the over-allotment option granted to those persons. In

addition, those persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to underwriters or dealers participating in any such offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. Such transactions, if commenced, may be discontinued at any time. We make no representation or prediction as to the direction or magnitude of any effect that the transactions described above, if implemented, may have on the price of our securities.

Unless otherwise specified in the applicable prospectus supplement, each class or series of securities will be a new issue with no established trading market, other than our common stock, which is listed on The Nasdaq Capital Market. We may elect to list any other class or series of securities on any exchange or market, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for any of the securities.

In order to comply with the securities laws of some states, if applicable, the securities offered pursuant to this prospectus will be sold in those states only through registered or licensed brokers or dealers. In addition, in some states securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and complied with.

Any underwriter may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of these activities at any time.

Any underwriters who are qualified market makers on The Nasdaq Capital Market may engage in passive market making transactions in the securities on The Nasdaq Capital Market in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security. If all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

## **LEGAL MATTERS**

The validity of the issuance of the securities offered hereby will be passed upon for us by Sheppard, Mullin, Richter & Hampton LLP, New York, New York. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

## **EXPERTS**

The consolidated financial statements as of December 31, 2017 and for the six month transition period ended December 31, 2017 and as of June 30, 2017 and 2016 and the years then ended incorporated by reference in this Prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm (the report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern), incorporated by reference herein, given on the authority of said firm as experts in auditing and accounting.

## WHERE YOU CAN FIND MORE INFORMATION

This prospectus constitutes a part of a registration statement on Form S-3 filed under the Securities Act. As permitted by the SEC's rules, this prospectus and any prospectus supplement, which form a part of the registration statement, do not contain all the information that is included in the registration statement. You will find additional information about us in the registration statement. Any statements made in this prospectus or any prospectus supplement concerning legal documents are not necessarily complete and you should read the documents that are filed as exhibits to the registration statement or otherwise filed with the SEC for a more complete understanding of the document or matter.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read, without charge, and copy the documents we file at the SEC's public reference rooms in Washington, D.C. at 100 F Street, NE, Room 1580, Washington, DC 20549, or in New York, New York and Chicago, Illinois. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our SEC filings are also available to the public at no cost from the SEC's website at <http://www.sec.gov>. In addition, we make available on or through our Internet site copies of these reports as soon as reasonably practicable after we electronically file or furnish them to the SEC. Our Internet site can be found at <http://www.contravir.com>. The information on our website is not a part of, and should not be considered as being incorporated by reference into, this prospectus supplement or the accompanying prospectus.

## INCORPORATION OF DOCUMENTS BY REFERENCE

We have filed a registration statement on Form S-3 with the Securities and Exchange Commission under the Securities Act. This prospectus is part of the registration statement but the registration statement includes and incorporates by reference additional information and exhibits. The Securities and Exchange Commission permits us to "incorporate by reference" the information contained in documents we file with the Securities and Exchange Commission, which means that we can disclose important information to you by referring you to those documents rather than by including them in this prospectus. Information that is incorporated by reference is considered to be part of this prospectus and you should read it with the same care that you read this prospectus. Information that we file later with the Securities and Exchange Commission will automatically update and supersede the information that is either contained, or incorporated by reference, in this prospectus, and will be considered to be a part of this prospectus from the date those documents are filed. We have filed with the Securities and Exchange Commission, and incorporate by reference in this prospectus:

1. [The Company's Annual Report on Form 10-K for the year ended June 30, 2017, filed with the SEC on September 28, 2017](#) ;
2. [The Company's Transition Report on Form 10-KT for the transition period from July 1, 2017 to December 31, 2017, filed with the SEC on March 26, 2018](#);
3. The Company's Quarterly Reports on Form 10-Q for the quarters ended [September 30, 2017](#) and [March 31, 2018](#), [June 30, 2018](#) and [September 30, 2018](#);
4. The Company's Definitive Proxy Statements filed on [October 27, 2017](#), [January 24, 2018](#) and [November 30, 2018](#);
5. The Company's Current Reports on Form 8-K filed on [August 3, 2017](#), [September 11, 2017](#), [October 3, 2017](#), [October 17, 2017](#), [October 19, 2017](#), [October 24, 2017](#), [November 6, 2017](#), [December 8, 2017](#), [December 13, 2017](#), [December 18, 2017](#), [December 21, 2017](#), [January 2, 2018](#), [January 3, 2018](#), [February 5, 2018](#), [February 6, 2018](#), [February 9, 2018](#), [February 12, 2018](#), [February 21, 2018](#), [February 22, 2018](#), [March 9, 2018](#), [April 13, 2018](#), [May 24, 2018](#), [May 29, 2018](#), [May 30, 2018](#), [May 31, 2018](#), [June 6, 2018](#), [June 13, 2018](#), [June 14, 2018](#), [June 15, 2018](#), [June 19, 2018](#), [June 21, 2018](#), [June 22, 2018](#), [June 25, 2018](#), [July 5, 2018](#), [July 23, 2018](#), [August 6, 2018](#), [August 27, 2018](#), [September 5, 2018](#), [September 18, 2018](#), [October 3, 2018](#), [October 18, 2018](#), [October 19, 2018](#), [November 12, 2018](#), [December 14, 2018](#), [January 2, 2019](#) and [January 16, 2019](#); and

6. The description of the Company's common stock contained in the registration statement on Form 8-A filed with the Commission on February 24, 2015 pursuant to Section 12 of the Exchange Act of 1934, as amended (the "Exchange Act"), including any amendment or report filed for the purpose of updating that description.

We also incorporate by reference all documents (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are subsequently filed by us with the Securities and Exchange Commission pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of the offering of the securities made by this prospectus (including documents filed after the date of the initial Registration Statement of which this prospectus is a part and prior to the effectiveness of the Registration Statement). These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

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 to the extent that a statement contained in this prospectus or any subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement

You may request, and we will provide you with, a copy of these filings, at no cost, by calling us at (732) 902-4000 or by writing to us at the following address:

ContraVir Pharmaceuticals, Inc.  
399 Thornall Street, First Floor  
Edison, New Jersey, 08837  
Attn.: Secretary



Up to \$7,000,000 of Shares

Common Stock

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PROSPECTUS SUPPLEMENT

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B. Riley FBR

February 12, 2020

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