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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

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**POST-EFFECTIVE AMENDMENT NO. 2  
TO  
FORM S-3  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**DECIPHERA PHARMACEUTICALS, INC.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**30-1003521**  
(I.R.S. Employer  
Identification Number)

**200 Smith Street  
Waltham, MA 02451  
(781) 209-6400**

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

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**Steven L. Hoerter  
President, Chief Executive Officer and Director  
Deciphera Pharmaceuticals, Inc.  
200 Smith Street  
Waltham, MA 02451  
(781) 209-6400**

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

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*Copy to:*

**Richard A. Hoffman, Esq.  
Sarah Ashfaq, Esq.  
Alicia M. Tschirhart, Esq.  
Goodwin Procter LLP  
100 Northern Avenue  
Boston, MA 02210  
(617) 570-1000**

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

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

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

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**THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933, AS AMENDED, OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.**

### EXPLANATORY NOTE

Deciphera Pharmaceuticals, Inc., or the Registrant, has filed a Post-Effective Amendment No. 1, or Amendment No. 1, to the Registration Statement on Form S-3 ASR (Commission File No. 333-236389), or the Automatic Shelf Registration Statement because the Registrant was no longer a well-known seasoned issuer (as such term is defined in Rule 405 of the Securities Act of 1933, as amended, or the Securities Act, upon the filing of its Annual Report on Form 10-K for the fiscal year ended December 31, 2021. Amendment No. 1 was filed using EDGAR submission type POSASR and supplemented disclosure to the Automatic Shelf Registration Statement required for a registrant other than a well-known seasoned issuer and made certain other amendments as set forth therein. This Post-Effective Amendment No. 2 is being filed using EDGAR submission type POS AM in order to convert the Automatic Shelf Registration Statement, as amended, to the proper EDGAR submission type for a non-automatic shelf registration statement.

This registration statement contains:

- a base prospectus which covers the offering, issuance and sale by the Registrant of the securities identified therein from time to time in one or more offerings with a total value of up to \$300,000,000; and
- a sales agreement prospectus covering the offering, issuance and sale by the Registrant of up to a maximum aggregate offering price of \$150,000,000 of our common stock that may be issued and sold from time to time under the Open Market Sale Agreement<sup>SM</sup>, or the sales agreement, entered into with Jefferies LLC.

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be specified in a prospectus supplement to the base prospectus. The specific terms of the securities to be issued and sold under the sales agreement are specified in the sales agreement prospectus that immediately follows the base prospectus. The common stock that may be offered, issued and sold under the sales agreement prospectus is included in the \$300,000,000 of securities that may be offered, issued and sold by the registrant under the base prospectus. Upon termination of the sales agreement, any portion of the \$150,000,000 included in the sales agreement prospectus that is not sold pursuant to the sales agreement will be available for sale in other offerings pursuant to the base prospectus.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED FEBRUARY 8, 2022

PROSPECTUS



**\$300,000,000**

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

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From time to time, we may offer and sell up to \$300,000,000 in aggregate principal amount of our Common Stock, Preferred Stock, Debt Securities, Warrants or Units, in each case in one or more issuances and at prices and on terms that we will determine at the time of the offering.

This prospectus describes the general manner in which any of these securities may be offered using this prospectus. We will specify in an accompanying prospectus supplement the terms of the securities offered and other details regarding the offering thereof.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "DCPH." On February 4, 2022, the closing price of our common stock, as reported on The Nasdaq Global Select Market, was \$7.97 per share.

**You should review carefully the risks and uncertainties described under the heading "[Risk Factors](#)" on page 8 of this prospectus and under any similar heading in the documents that are incorporated by reference into this prospectus, as well as "[Special Note Regarding Forward-Looking Statements](#)" on page 3 of this prospectus. You should read the entire prospectus carefully before you make your investment decision.**

The securities covered by this prospectus may be sold directly by us to investors, through agents designated by us from time to time or through underwriters or dealers at prices and on terms to be determined at the time of offering. We will include in an applicable prospectus supplement the names of any underwriters or agents and any applicable commissions or discounts. Additional information on the methods of sale appears under "[Plan of Distribution](#)" in this prospectus. We will also describe in an applicable prospectus supplement the way(s) in which we expect to use the net proceeds we receive from any sale.

**Neither the U.S. Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

**This prospectus may not be used to offer or sell any securities unless accompanied by a prospectus supplement.**

The date of this prospectus is , 2022.

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You should rely only on the information contained or incorporated by reference in this prospectus and in an applicable prospectus supplement to this prospectus. We have not authorized any other person to provide you with different or additional information. If anyone provides you with different, additional or inconsistent information, you should not rely on it. We do not take responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are not making an offer to sell these securities or soliciting any offer to buy these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, any applicable prospectus supplement or any free writing prospectus we authorize to be delivered to you is accurate only as of the date of that document or any other date set forth in that document. Additionally, any information we have incorporated by reference in this prospectus or in any applicable prospectus supplement is accurate only as of the date of the document incorporated by reference or other date set forth in that document, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any sale of securities. Our business, financial condition, results of operations, cash flow and prospects may have changed since that date.

This prospectus, any applicable prospectus supplement and the information incorporated herein or therein by reference contains market data, industry statistics and other data that have been obtained or compiled from information made available by independent third parties. We have not independently verified the accuracy and completeness of such data. This prospectus, any applicable prospectus supplement and the information incorporated herein or therein by reference include trademarks, service marks and trade names owned by us or other companies. Solely for convenience, we may refer to our trademarks included or incorporated by reference in this prospectus, any applicable prospectus supplement or any free writing prospectus without the TM or ® symbols, but any such references are not intended to indicate that we will not assert, to the fullest extent permitted under applicable law, our rights to our trademarks or other intellectual property. All trademarks, service marks and trade names included or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

When used in this prospectus, the terms “Deciphera,” “we,” “our” and “us” refer to Deciphera Pharmaceuticals, Inc., a Delaware corporation, and its consolidated subsidiaries, unless otherwise specified or the context otherwise requires.

## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we have filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration process.

Under this process, we may sell the securities described in this prospectus in one or more offerings for an aggregate offering amount of up to \$300,000,000. This prospectus describes the general manner in which we may offer the securities described in this prospectus. Each time we sell securities pursuant to the registration statement we will provide a prospectus supplement that will contain specific information about the offering and the securities offered, and may also add, update or change information contained in this prospectus. If there is any inconsistency between information in this prospectus and any accompanying prospectus supplement, you should rely on the information in the most recent applicable prospectus supplement and documents incorporated by reference herein and therein. This prospectus may not be used to offer to sell, solicit an offer to buy or consummate a sale of our securities unless it is accompanied by a prospectus supplement.

This prospectus, together with any accompanying prospectus supplement, contains important information you should know before investing in our securities, including important information about us and the securities being offered. You should carefully read both documents, as well as the additional information contained in the documents described under “*Where You Can Find More Information*” and “*Incorporation of Certain Information by Reference*” in both this prospectus and the applicable prospectus supplement, and in particular the annual, quarterly and current reports and other documents we file with the SEC. Neither this prospectus nor any accompanying prospectus supplement is an offer to sell these securities or is soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act, with respect to the securities offered by this prospectus and the applicable prospectus supplement. This prospectus and the applicable prospectus supplement do not contain all of the information set forth in the registration statement and its exhibits and schedules in accordance with SEC rules and regulations. For further information with respect to us and the securities being offered by this prospectus and the applicable prospectus supplement, you should read the registration statement, including its exhibits and schedules. Statements contained in this prospectus and the applicable prospectus supplement, including documents that we have incorporated by reference, as to the contents of any contract or other document referred to are not necessarily complete, and, with respect to any contract or other document filed as an exhibit to the registration statement or any other such document, each such statement is qualified in all respects by reference to the corresponding exhibit. You should review the complete contract or other document to evaluate these statements. You may obtain copies of the registration statement and its exhibits via the SEC’s EDGAR database or our website.

We file annual, quarterly and current reports, proxy statements and other documents with the SEC under the U.S. Securities Exchange Act of 1934, as amended, or the Exchange Act. The SEC maintains a website that contains reports, proxy and information statements and other information regarding issuers, including us, that file electronically with the SEC. You may obtain documents that we file with the SEC at [www.sec.gov](http://www.sec.gov).

We also make these documents available on our website at [www.deciphera.com](http://www.deciphera.com). Our website and the information contained or connected to our website is not incorporated by reference in this prospectus or any prospectus supplement, and you should not consider it part of this prospectus or any prospectus supplement.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

SEC rules permit us to incorporate information by reference in this prospectus and the applicable prospectus supplement. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus and the applicable prospectus supplement, except for information superseded by information contained in this

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prospectus or the applicable prospectus supplement itself or in any subsequently filed incorporated document. This prospectus and the applicable prospectus supplement incorporate by reference the documents set forth below that we have previously filed with the SEC, other than information in such documents that is deemed to be furnished and not filed. These documents contain important information about us and our business and financial condition.

- Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on February 8, 2022;
- Definitive Proxy Statement on [Schedule 14A](#), filed with the SEC on April 29, 2021, to the extent incorporated by reference into Part III of the Annual Report on Form 10-K for the fiscal year ended December 31, 2020; and
- the description of our Common Stock contained in our Registration Statement on [Form 8/A](#), dated September 27, 2017, and as set forth by the description of the Registrant's common stock set forth in [Exhibit 4.4](#) to the Registrant's Annual Report on [Form 10-K](#) for the year ended December 31, 2020, filed with the Commission on February 9, 2021, including any other amendments or reports filed for the purpose of updating such description.

All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of the initial registration statement of which this prospectus is a part and prior to the effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus, and any previously filed documents. All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this prospectus and prior to the termination of the offering of any of the securities covered under this prospectus shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus, the applicable prospectus supplement and any previously filed documents.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference in this prospectus or the applicable prospectus supplement shall be deemed to be modified or superseded for purposes of this prospectus and such applicable prospectus supplement to the extent that a statement contained in this prospectus or such applicable prospectus supplement, or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus and such applicable prospectus supplement, modifies or supersedes such earlier statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus or such applicable prospectus supplement.

Documents incorporated by reference are available from us without charge, excluding all exhibits unless specifically incorporated by reference as an exhibit to this prospectus and the applicable prospectus supplement.

Prospective investors may obtain documents incorporated by reference in this prospectus and the applicable prospectus supplement at no cost by requesting them in writing or by telephone from us at our executive offices at:

Deciphera Pharmaceuticals, Inc.  
200 Smith Street  
Waltham, MA 02451  
(781) 209-6400  
Attention: Secretary

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, together with any accompanying prospectus supplement, includes and incorporates by reference “forward-looking statements” within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and releases issued by the SEC and within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. All statements other than statements of historical facts contained in this prospectus, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plan, objectives of management and expected market growth, are forward-looking statements. You can identify these forward-looking statements by the use of words such as “outlook,” “believes,” “expects,” “potential,” “continues,” “may,” “will,” “should,” “seeks,” “approximately,” “predicts,” “intends,” “plans,” “estimates,” “anticipates” or the negative version of these words or other comparable words. Such forward-looking statements are subject to various risks and uncertainties. Accordingly, there are or will be important factors that could cause actual outcomes or results to differ materially from those indicated in these statements. We believe these factors include, but are not limited to, those described under “*Risk Factors*” and include, among other things:

- our ability to successfully commercialize or otherwise provide access to QINLOCK for the treatment of adult patients with advanced gastrointestinal stromal tumor (GIST) who have received prior treatment with three or more kinase inhibitors, including imatinib, in the U.S., key European markets, and any other jurisdictions where we may receive marketing approval in the future;
- the success and cost of our plans to research, develop, and commercialize our drug candidates, including the timing of our product development activities and clinical trials, including the timing of our investigational new drug (IND) applications, and clearance thereof, for any other product candidates;
- our ability to successfully complete the Phase 3 MOTION study for vimseltinib in tenosynovial giant cell tumor (TGCT) patients, advance our DCC-3116 program through clinical development, and nominate additional drug candidates from our switch control inhibitor platform;
- our ability to obtain and maintain regulatory approval for QINLOCK or obtain and maintain regulatory approval for any of our current or future drug candidates, and any related restrictions, limitations, and/or warnings in the label of QINLOCK or any of our current or future drug candidates that may receive marketing approval;
- the rate and degree of market acceptance for QINLOCK or any current or future drug candidate for which we may receive marketing approval;
- our ability and plans in continuing to maintain our commercial infrastructure and successfully marketing and selling QINLOCK and any current or future drug candidate for which we may receive marketing approval, including our plans with respect to the focus and activities of our sales force, the nature of our marketing, market access, patient support activities, and our pricing of QINLOCK;
- the pricing and reimbursement of, and the extent to which patient assistance programs are utilized for, QINLOCK, or any current or future drug candidates for which we may receive marketing approval;
- our expectations regarding the size and growth potential of the markets for QINLOCK or any of our current or future drug candidates for which we may receive marketing approval and our ability to serve those markets;
- our ability to obtain funding for our operations;
- our ability to manufacture or obtain sufficient quantities of QINLOCK or our drug candidates, on a timely basis, to support our planned clinical trials and commercialization of QINLOCK or any of our current or future drug candidates for which we may receive marketing approval;
- the therapeutic benefit and effectiveness of QINLOCK and our drug candidates;



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- the safety profile and related adverse events of QINLOCK and our drug candidates;
- our commercial preparedness efforts and our ability to commercially launch our drug or drug candidates, if and when they are approved, including, without limitation, QINLOCK in Germany and France, and our ability to provide access in additional European countries through other channels;
- the performance and experience of our licensee, Zai Lab (Shanghai) Co., Ltd. (Zai), to successfully develop and commercialize QINLOCK in the People's Republic of China (the PRC), Hong Kong, Taiwan and, if approved, in Macau, these territories collectively referred to as Greater China, under the terms and conditions of our license agreement, and the performance of our distributors in other territories;
- our ability to attract additional licensees and/or collaborators or distributors with development, regulatory, and commercialization expertise;
- our expectations regarding our ability to obtain, maintain, enforce, and defend our intellectual property protection for QINLOCK or our drug candidates;
- future agreements with third parties in connection with the commercialization of QINLOCK or any of our current or future drug candidates for which we may receive marketing approval;
- regulatory and legal developments in the U.S. and foreign countries;
- our ability to comply with healthcare laws and regulations in the U.S., key European markets, and any other foreign countries, including, without limitation, those applying to the marketing and sale of commercial drugs;
- the performance and experience of our third-party suppliers and manufacturers;
- the success and timing of competing therapies that are or may become available;
- our ability to attract and retain key scientific, medical, commercial, and management personnel;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements, and needs for additional financing;
- the success of the implementation of our corporate restructuring intended to prioritize clinical development of select programs, streamline commercial operations, maintain a focus on discovery research, and extend our cash runway;
- the impact of global economic and political developments on our business, including economic slowdowns or recessions that may result from the continuing COVID-19 pandemic, which could harm our commercialization efforts for QINLOCK as well as the value of our common stock and our ability to access capital markets;
- natural and manmade disasters, including pandemics such as COVID-19, and other force majeure, which could impact our operations, and those of our partners and other participants in the health care industry, and which could adversely impact our clinical studies, preclinical research activities, and drug supply; and
- our use of the proceeds from our follow-on public offerings and any other financing transaction we may undertake.

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These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. In evaluating such forward-looking statements, you should specifically consider various factors that may cause actual results to differ materially from current expectations, including the risks outlined under the heading “Risk Factors” contained in this prospectus and any related free writing prospectus, and in any other documents incorporated herein or therein (including in our most recent annual report on Form 10-K, subsequent quarterly reports on Form 10-Q and other filings we make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act). Any forward-looking statement in this prospectus reflects our current view with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This prospectus, together with any accompanying prospectus supplement, also contains estimates, projections and other information concerning our industry, our business and the markets for certain drugs, including data regarding the estimated size of those markets, their projected growth rates and the incidence of certain medical conditions. Information that is based on estimates, forecasts, projections or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained these industry, business, market and other data from reports, research surveys, studies and similar data prepared by third parties, industry, medical and general publications, government data and similar sources. In some cases, we do not expressly refer to the sources from which these data are derived.

### **Trademarks**

This prospectus includes trademarks, service marks and trade names owned by us or by other companies. All trademarks, service marks and trade names included in this prospectus are the property of their respective owners. The Deciphera® word mark and logo and the QINLOCK® word mark and logo are registered trademarks of Deciphera Pharmaceuticals, LLC.

## ABOUT THE COMPANY

*The following highlights information about the Registrant and our business contained elsewhere or incorporated by reference in this prospectus. It is not complete and does not contain all of the information that you should consider before investing in any of our securities. You should carefully read this prospectus together with the more detailed information incorporated by reference in this prospectus.*

### Overview

Deciphera Pharmaceuticals, Inc. (“we”, “us,” “our,” “the Company,” or “Deciphera”) is a biopharmaceutical company focused on discovering, developing, and commercializing important new medicines to improve the lives of people with cancer. Leveraging our proprietary switch-control kinase inhibitor platform and deep expertise in kinase biology, we design kinase inhibitors to target the switch pocket region of the kinase with the goal of developing potentially transformative medicines. Through our patient-inspired approach, we seek to develop a broad portfolio of innovative medicines to improve treatment outcomes. QINLOCK, our switch-control kinase inhibitor, was engineered using our proprietary drug discovery platform and developed for the treatment of fourth-line GIST. QINLOCK is approved in Australia, Canada, China, the European Union (EU), Hong Kong, Switzerland, Taiwan, the United States (U.S.), and the United Kingdom (U.K.) for the treatment of fourth-line GIST. We wholly own QINLOCK and all of our drug candidates with the exception of a development and commercialization out-license agreement for QINLOCK in Greater China. In addition to QINLOCK, we have identified and advanced multiple product candidates from our platform into clinical studies, including vimseltinib and DCC-3116.

We are focused on the commercialization of QINLOCK for the treatment of fourth-line GIST in the U.S., where we believe that QINLOCK has been established as the standard of care. Following QINLOCK’s European Commission (EC) approval in fourth-line GIST in November 2021, we have decided to focus our direct commercial efforts on Germany and France. We have launched QINLOCK in Germany and plan to transition to a post-approval paid access program in France in the first half of 2022, subject to program approval by the French National Authority for Health (HAS). We plan to provide access to QINLOCK to fourth-line GIST patients in additional European countries through other channels.

We have two additional clinical-stage assets, vimseltinib and DCC-3116. In January 2022, we announced that enrollment was underway in our Phase 3 MOTION study for vimseltinib, a CSF1R inhibitor, in patients with TGCT. Our Phase 1/2 study of vimseltinib in TGCT patients is ongoing and we expect to provide updated data in the second half of 2022. We are also advancing DCC-3116, our potential first-in-class drug candidate targeting the ULK kinase to inhibit autophagy. DCC-3116 is in the dose escalation phase of a Phase 1 study in patients with mutant RAS and RAF cancers, and we expect to provide initial Phase 1 dose escalation data, as well as additional preclinical data on DCC-3116, in 2022. Following and subject to the selection of a recommended Phase 2 dose of DCC-3116 from the monotherapy dose escalation portion of the Phase 1 study of DCC-3116, we plan to initiate the Phase 1 combination dose escalation cohorts with trametinib in 2022 and, subject to feedback from regulatory authorities, expand this study to add a combination with a mutant KRAS G12C inhibitor in non-small cell lung cancer patients. In addition, we intend to continue to explore preclinical combinations of DCC-3116 with other agents. Finally, we continue to invest in our next generation of research programs, which are designed to provide first-in-class or best-in-class treatments using our proprietary switch-control inhibitor platform. Our goal for 2022 is to nominate a development candidate for our pan-RAF research program, which targets inhibition of BRAF and CRAF kinases.

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Deciphera Pharmaceuticals, LLC was formed and commenced operations in 2003. Deciphera Pharmaceuticals, Inc. was incorporated under the laws of Delaware on August 1, 2017 for the sole purpose of completing an initial public offering and related transactions in order to carry on the business of Deciphera Pharmaceuticals, LLC. We are the sole managing member of Deciphera Pharmaceuticals, LLC and conduct all our business through, operate and control all of the businesses and affairs of Deciphera Pharmaceuticals, LLC, our wholly owned subsidiary, directly or through blocker entities that are also wholly owned by us.

On October 2, 2017, we completed the initial public offering of our common stock, or IPO. On October 2, 2017, immediately prior to the completion of the IPO, we engaged in a series of transactions whereby Deciphera Pharmaceuticals, LLC became a wholly owned subsidiary of Deciphera Pharmaceuticals, Inc., a Delaware corporation. As part of the transactions, shareholders of Deciphera Pharmaceuticals, LLC exchanged their shares of Deciphera Pharmaceuticals, LLC for shares of Deciphera Pharmaceuticals, Inc. on a one-for-5.65 basis.

Our principal executive offices are located at 200 Smith Street, Waltham, MA 02451, and our telephone number is (781) 209-6400. Our corporate website address is [www.deciphera.com](http://www.deciphera.com). Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on any such information in making your decision whether to purchase our securities.

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available, free of charge, on or through our website as soon as reasonably practicable after such reports and amendments are electronically filed with or furnished to the SEC. The SEC maintains an Internet site that contains reports, proxy and information statements and other information regarding our filings at [www.sec.gov](http://www.sec.gov).

For additional information about our Company, please refer to other documents we have filed with the SEC and that are incorporated by reference into this prospectus, as listed under the heading *"Incorporation of Certain Information by Reference."*

## **RISK FACTORS**

Investing in our securities involves certain risks. Before you invest in any of our debt securities, common stock, preferred stock or warrants, in addition to the other information included in, or incorporated by reference into, this prospectus, you should carefully consider the risk factors contained in Item 1A under the caption “*Risk Factors*” and elsewhere in our annual report on Form 10-K for the fiscal year ended December 31, 2021, which is incorporated into this prospectus by reference, as updated by our annual or quarterly reports for subsequent fiscal years or fiscal quarters that we file with the SEC and that are so incorporated. See “*Where You Can Find More Information*” for information about how to obtain a copy of these documents. You should also carefully consider the risks and other information that may be contained in, or incorporated by reference into, any prospectus supplement relating to specific offerings of securities.

## USE OF PROCEEDS

Unless otherwise described in the applicable prospectus supplement, we intend to use the net proceeds from the sale of any securities described in this prospectus for general corporate purposes, which may include research and development and clinical development costs to support the advancement of our drug candidates, including the continued growth of our commercial and medical affairs capabilities, the conduct of clinical trials and preclinical research and development activities; working capital; capital expenditures; general and administrative expenses; and other general corporate purposes.

We may set forth additional information concerning our expected use of net proceeds from sales of securities in the applicable prospectus supplement relating to the specific offering. Pending use of net proceeds as described above, we may temporarily invest the net proceeds in a variety of capital preservation instruments, including high quality, investment grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government, or may hold such proceeds as cash, until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

## **DIVIDEND POLICY**

We have never declared or paid any cash dividends on our capital stock and do not anticipate paying any cash dividends in the foreseeable future. Payment of cash dividends, if any, in the future will solely be at the discretion of our board of directors and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

## GENERAL DESCRIPTION OF SECURITIES

We may offer shares of common or preferred stock, various series of senior or subordinated debt securities, warrants, or units consisting of combinations of the foregoing, in each case from time to time under this prospectus, together with the applicable prospectus supplement, at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. At the time we offer a particular type or series of securities, we will provide an applicable prospectus supplement describing the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- voting or other rights;
- rates and times of payment of interest, dividends or other payments;
- liquidation preference;
- original issue discount;
- maturity;
- ranking;
- restrictive covenants;
- redemption, conversion, exercise, exchange, settlement or sinking fund terms, including prices or rates, and any provisions for changes to or adjustments in such prices or rates and in the securities or other property receivable upon conversion, exercise, exchange or settlement;
- any securities exchange or market listing arrangements; and
- important U.S. federal income tax considerations.

This prospectus may not be used to offer or sell securities unless accompanied by an applicable prospectus supplement. The applicable prospectus supplement may add, update or change information contained in this prospectus or in documents incorporated by reference in this prospectus. You should read the prospectus supplement related to any securities being offered.

We may sell the securities directly to or through underwriters, dealers or agents. We and our underwriters, dealers or agents reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through underwriters or agents, we will include in the applicable prospectus supplement (i) the names of the underwriters or agents and applicable fees, discounts and commissions to be paid to them; (ii) details regarding over-allotment options, if any; and (iii) net proceeds to us.

The following descriptions are not complete and may not contain all the information you should consider before investing in any securities we may offer hereunder; they are summarized from, and qualified by reference to, our amended and restated certificate of incorporation, amended and restated bylaws and the other documents referred to in the descriptions, all of which are or will be publicly filed with the SEC, as applicable. See “*Where You Can Find More Information.*”



## DESCRIPTION OF CAPITAL STOCK

The following summary description of our common stock and preferred stock, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of our capital stock. The following description of our capital stock does not purport to be complete and is subject to, and qualified in its entirety by, our amended and restated certificate of incorporation and amended and restated bylaws, which are exhibits to the registration statement of which this prospectus forms a part, and by applicable law. The terms of our common stock and preferred stock may also be affected by Delaware law.

### **Authorized Capital Stock**

Our authorized capital stock consists of 125,000,000 shares of common stock, par value \$0.01 per share, and 5,000,000 shares of preferred stock, par value \$0.01 per share, all of which preferred stock is undesignated. As of December 31, 2021, we had 58,549,644 shares of our common stock outstanding and no shares of preferred stock outstanding. Unless our board of directors determines otherwise, we will issue all shares of our capital stock in uncertificated form.

### **Common Stock**

The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of the stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by our board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights or redemption or sinking fund provisions.

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. When we issue shares of common stock under this prospectus, when issued and paid for, the shares will validly issued, fully paid and non-assessable.

### **Exchange Listing**

Our common stock is listed on The Nasdaq Global Select Market under the symbol "DCPH." On February 4, 2022, the closing price for our common stock, as reported on The Nasdaq Global Select Market, was \$7.97 per share. As of December 31, 2021, we had approximately two stockholders of record.

### **Transfer Agent and Registrar**

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar's address is 250 Royall Street, Canton, Massachusetts 02021.

### **Preferred Stock**

#### ***Undesignated Preferred Stock***

Our board of directors has the authority, without further action by our stockholders, to issue up to 5,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our company or other corporate action. We have no shares of preferred stock outstanding, and we have no present plan to issue any shares of preferred stock.

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The purpose of authorizing our board of directors to issue preferred stock in one or more series and determine the number of shares in the series and its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. Examples of rights and preferences that the board of directors may fix are:

- dividend rights;
- dividend rates;
- conversion rights;
- voting rights;
- terms of redemption; and
- liquidation preferences.

The existence of authorized but unissued shares of undesignated preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of us or our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer, stockholder or stockholder group. The rights of holders of our common stock described above, will be subject to, and may be adversely affected by, the rights of any preferred stock that we may designate and issue in the future. The issuance of shares of undesignated preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

### ***Additional Series of Preferred Stock***

We will incorporate by reference as an exhibit to the registration statement, which includes this prospectus, the form of any certificate of designation that describes the terms of any additional series of preferred stock we may offer pursuant to this prospectus. This description and the applicable prospectus supplement will include:

- the title and stated value;
- the number of shares authorized;
- the liquidation preference per share;
- the purchase price;
- the dividend rate, period and payment date, and method of calculation for dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price, or how it will be calculated, and the conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price, or how it will be calculated, and the exchange period;
- voting rights, if any, of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale or other assignment, if any;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

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When we issue shares of preferred stock under this prospectus, the shares will fully be paid and nonassessable and will not be subject to any preemptive or similar rights.

### **Registration Rights**

The holders of approximately 19,084,289 shares of our common stock, or their transferees, are entitled to the registration rights set forth below with respect to registration of the resale of such shares under the Securities Act pursuant to the registration rights agreement, by and among us and certain of our stockholders.

#### ***Demand Registration Rights***

Upon the written request of at least 40% of the holders of the registrable securities then outstanding, or a lesser percentage in certain cases, that we file a registration statement under the Securities Act covering the registration of registrable securities owned by such holder(s) having an anticipated aggregate offering price, net of selling expenses, of at least \$25.0 million, we will be obligated to notify all holders of registrable securities of such request. As soon as practicable thereafter, and in any event within 60 days after the date such request is given, we will be required to register the sale on a registration statement on Form S-1 of all registrable securities that holders may request to be registered, subject to specified exceptions, conditions and limitations. We may postpone the filing of a registration statement for up to 90 days once in any 12-month period if in the good faith judgment of our board of directors such registration would be detrimental to us, and we are not required to effect the filing of a registration statement during the period starting with the date that is 60 days prior to our good faith estimate of the date of filing of a registration statement initiated by us and ending on a date 180 days, in the case of our initial public offering, or 90 days, in all other cases, after the effective date of a registration statement initiated by us. We are required to effect only three registrations pursuant to this provision. The underwriters of any underwritten offering will have the right to limit the number of shares having registration rights to be included in the registration statement.

#### ***“Piggyback” Registration Rights***

If we register any securities for public sale, holders of registration rights will have the right to include their shares in the registration statement. The underwriters of any underwritten offering will have the right to limit the number of registrable securities to be included in the registration statement, but such number may not be below 20% of the total number of shares included in such registration statement.

#### ***Form S-3 Registration Rights***

If we are eligible to file a registration statement on Form S-3, holders of at least 10% of our registrable securities then outstanding, or a lesser percentage in certain cases, have the right to request that we file a registration statement on Form S-3, so long as the aggregate price to the public of the securities to be sold under the registration statement on Form S-3 is at least \$5.0 million. As soon as practicable thereafter, and in any event within 45 days after the date such request is given, we will be required to register the sale on a registration statement on Form S-3 of all registrable securities that holders may request to be registered, subject to specified exceptions, conditions and limitations. We may postpone the filing of a registration statement for up to 90 days once in any 12-month period if in the good faith judgment of our board of directors such registration would be detrimental to us, and we are not required to effect the filing of a registration statement during the period starting with the date that is 30 days prior to our good faith estimate of the date of filing of a registration statement initiated by us and ending on a date 90 days after the effective date of a registration statement initiated by us. We are required to effect only two registrations in any 12-month period. The underwriters of any underwritten offering will have the right to limit the number of shares having registration rights to be included in the registration statement.

#### ***Expenses of Registration***

Pursuant to the registration rights agreement, we are generally required to bear all registration expenses, including the fees and expenses of one counsel representing the selling holders, incurred in connection with the demand, piggyback and Form S-3 registrations described above. We are not required to bear selling expenses, which include all underwriting discounts and commissions, selling commissions, stock transfer taxes applicable to the sale of

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registrable securities, and fees and disbursements of any additional counsel for any selling holder. We are not required to pay registration expenses if the registration request is withdrawn at the request of the holders of a majority of the registrable securities unless (i) the holders of a majority of the registrable securities agree to forfeit their right to one registration, or (ii) the withdrawal is due to the discovery of a material adverse change in our business.

### ***Termination of Registration Rights***

The demand, piggyback and Form S-3 registration rights discussed above will terminate as to a given holder of registrable securities upon the earlier of (i) three years following the date of closing of our initial public offering, except with respect to shares held by certain principal investors whose registration rights shall not terminate until any such principal investor first holds less than one percent of our outstanding capital stock, (ii) the closing of a change of control or (iii) when all shares held by the holders can be sold under SEC Rule 144 within a 90-day period.

### **Authorized but Unissued Capital Stock**

The Delaware General Corporation Law does not require stockholder approval for any issuance of authorized shares. However, the listing requirements of Nasdaq, which would apply so long as our common stock remains listed on Nasdaq, require stockholder approval of certain issuances equal to or exceeding 20% of the then outstanding voting power or then outstanding number of shares of common stock. These additional shares may be used for a variety of corporate purposes, including future public offerings, to raise additional capital or to facilitate acquisitions.

One of the effects of the existence of unissued and unreserved common stock or preferred stock may be to enable our board of directors to issue shares to persons friendly to current management, which issuance could render more difficult or discourage an attempt to obtain control of our company by means of a merger, tender offer, proxy contest or otherwise, and thereby protect the continuity of our management and possibly deprive our stockholders of opportunities to sell their shares of common stock at prices higher than prevailing market prices.

### **Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and Delaware Anti-Takeover Law**

Certain provisions of the Delaware General Corporation Law and of our amended and restated certificate of incorporation and amended and restated bylaws could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our board of directors. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests. However, we believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

***Provisions of our Certificate of Incorporation and Bylaws.*** Our amended and restated certificate of incorporation and amended and restated bylaws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

***Board Composition and Filling Vacancies.*** Our amended and restated certificate of incorporation provides for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Our amended and restated certificate of incorporation also provides that directors may be removed only

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for cause and then only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

**No Written Consent of Stockholders.** Our amended and restated certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

**Meetings of Stockholders.** Our amended and restated certificate of incorporation and amended and restated bylaws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our amended and restated bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

**Advance Notice Requirements.** Our amended and restated bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken.

Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our amended and restated bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

**Amendment to Certificate of Incorporation and Bylaws.** Any amendment of our amended and restated certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our amended and restated certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, board composition, limitation of liability and the amendment of our bylaws and certificate of incorporation must be approved by not less than 75% of the outstanding shares entitled to vote on the amendment, and not less than 75% of the outstanding shares of each class entitled to vote thereon as a class. Our amended and restated bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the bylaws; and may also be amended by the affirmative vote of at least 75% of the outstanding shares entitled to vote on the amendment, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

**Undesignated Preferred Stock.** Our amended and restated certificate of incorporation provides for 5,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our amended and restated certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

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**Delaware Anti-Takeover Law.** We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

**Exclusive Jurisdiction of Certain Actions.** Our amended and restated bylaws provide that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any state law claims (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers and employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws, or (iv) any action asserting a claim that is governed by the internal affairs doctrine, in each case subject to the Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. Although we believe this provision benefits us by providing increased consistency in the application of Delaware law in the types of lawsuits to which it applies, the provision may have the effect of discouraging lawsuits against our directors and officers. The foregoing exclusive forum provision will not apply to any causes of action arising under the Securities Act or the Exchange Act. Our amended and restated bylaws further provide that unless we consent in writing to the selection of an alternative forum, the United States District Court for the District of Massachusetts shall be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, as our principal executive offices are located in Waltham, Massachusetts. The enforceability of similar exclusive forum provisions in other corporations’ bylaws have been challenged in legal proceedings, and it is possible that a court could rule that this provision in our amended and restated bylaws is inapplicable or unenforceable.

## DESCRIPTION OF DEBT SECURITIES

This section describes the general terms and provisions of our debt securities that we may issue from time to time. 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, the applicable prospectus supplement or free writing prospectus will describe the specific terms of any debt securities offered through that prospectus supplement or free writing prospectus. The terms of any debt securities we offer under a prospectus supplement or free writing prospectus may differ from the terms we describe below. 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 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 applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplement or free writing prospectus and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete applicable indenture 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

We will describe in the applicable prospectus supplement or free writing prospectus 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 payable;
- 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;

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- the date, if any, after which, the conditions upon 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;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions 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;
  - 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;
- provisions for a sinking fund purchase or other analogous fund, if any;
- 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 or advisable in connection with the marketing of the debt securities.

### **Conversion or Exchange Rights**

We will set forth in the applicable prospectus supplement or free writing prospectus the terms on 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 or free writing prospectus 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 other securities of ours or securities of other entities,



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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 or free writing prospectus 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 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 or free writing prospectus 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 specified in the last bullet point above occurs with respect to us, 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.

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 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 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

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- 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 or free writing prospectus.

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

### **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 to our covenants 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 materially adversely affect the interests of any holder of debt securities of any series.

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 as otherwise provided in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, we and the trustee may make the following changes only 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 or free writing prospectus applicable to a particular series of debt securities, we can 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;

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- 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, 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 or free writing prospectus, 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 or free writing prospectus with respect to that series. 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 or free writing prospectus, 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 or free writing prospectus, 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 or free writing prospectus 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. 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.

Subject to this provision, the trustee 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.

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### **Payment and Paying Agents**

Unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, 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.

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 or free writing prospectus, 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 or free writing prospectus, 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 or free writing prospectus 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 of Debt Securities**

The subordinated debt securities will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement or free writing prospectus. 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 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.

## DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. If we indicate in the prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement, which includes this prospectus.

### General

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we will issue under a separate warrant agreement. We will enter into the warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the 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 agreement 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 periods during which, and places at which, the warrants are exercisable;
- the manner of exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- 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.

## DESCRIPTION OF UNITS

We may issue units comprised of shares of common stock, shares of preferred stock, debt securities and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish. This section outlines certain provisions of the units that we may issue. If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. The information described in this section may not be complete in all respects and is qualified entirely by reference to the unit agreement with respect to the units of any particular series. The specific terms of any series of units offered will be described in the applicable prospectus supplement. If so described in a particular supplement, the specific terms of any series of units may differ from the general description of terms presented below. We urge you to read any prospectus supplement related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference as exhibits to the registration statement, which includes this prospectus.

Each unit that we may issue 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. The applicable prospectus supplement may describe:

- 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;
- the price or prices at which such units will be issued;
- the applicable United States federal income tax considerations relating to the units;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any other terms of the units and 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 the securities included in each unit, to the extent relevant and as may be updated in any prospectus supplements.

### **Issuance in Series**

We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of a particular series of units will be described in the applicable prospectus supplement.

### **Unit Agreements**

We will issue the units under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We may add, replace or terminate unit agents from time to time. We will identify the unit agreement under which each series of units will be issued and the unit agent under that agreement in the applicable prospectus supplement.

The following provisions will generally apply to all unit agreements unless otherwise stated in the applicable prospectus supplement:

### ***Modification without Consent***

We and the applicable unit agent may amend any unit or unit agreement without the consent of any holder:

- to cure any ambiguity; any provisions of the governing unit agreement that differ from those described below;
- to correct or supplement any defective or inconsistent provision; or
- to make any other change that we believe is necessary or desirable and will not adversely affect the interests of the affected holders in any material respect.

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We do not need any approval to make changes that affect only units to be issued after the changes take effect. We may also make changes that do not adversely affect a particular unit in any material respect, even if they adversely affect other units in a material respect. In those cases, we do not need to obtain the approval of the holder of the unaffected unit; we need only obtain any required approvals from the holders of the affected units.

### ***Modification with Consent***

We may not amend any particular unit or a unit agreement with respect to any particular unit unless we obtain the consent of the holder of that unit, if the amendment would:

- impair any right of the holder to exercise or enforce any right under a security included in the unit if the terms of that security require the consent of the holder to any changes that would impair the exercise or enforcement of that right; or
- reduce the percentage of outstanding units or any series or class the consent of whose holders is required to amend that series or class, or the applicable unit agreement with respect to that series or class, as described below.

Any other change to a particular unit agreement and the units issued under that agreement would require the following approval:

- If the change affects only the units of a particular series issued under that agreement, the change must be approved by the holders of a majority of the outstanding units of that series; or
- If the change affects the units of more than one series issued under that agreement, it must be approved by the holders of a majority of all outstanding units of all series affected by the change, with the units of all the affected series voting together as one class for this purpose.

These provisions regarding changes with majority approval also apply to changes affecting any securities issued under a unit agreement, as the governing document.

In each case, the required approval must be given by written consent.

### ***Unit Agreements Will Not Be Qualified under Trust Indenture Act***

No unit agreement will be qualified as an indenture, and no unit agent will be required to qualify as a trustee, under the Trust Indenture Act. Therefore, holders of units issued under unit agreements will not have the protections of the Trust Indenture Act with respect to their units.

### ***Mergers and Similar Transactions Permitted; No Restrictive Covenants or Events of Default***

The unit agreements will not restrict our ability to merge or consolidate with, or sell our assets to, another corporation or other entity or to engage in any other transactions. If at any time we merge or consolidate with, or sell our assets substantially as an entirety to, another corporation or other entity, the successor entity will succeed to and assume our obligations under the unit agreements. We will then be relieved of any further obligation under these agreements.

The unit agreements will not include any restrictions on our ability to put liens on our assets, nor will they restrict our ability to sell our assets. The unit agreements also will not provide for any events of default or remedies upon the occurrence of any events of default.

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### ***Governing Law***

The unit agreements and the units will be governed by New York law.

### ***Form, Exchange and Transfer***

We will issue each unit in global-i.e., book-entry-form only. Units in book-entry form will be represented by a global security registered in the name of a depository, which will be the holder of all the units represented by the global security. Those who own beneficial interests in a unit will do so through participants in the depository's system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depository and its participants. We will describe book-entry securities, and other terms regarding the issuance and registration of the units in the applicable prospectus supplement.

Each unit and all securities comprising the unit will be issued in the same form.

If we issue any units in registered, non-global form, the following will apply to them.

The units will be issued in the denominations stated in the applicable prospectus supplement. Holders may exchange their units for units of smaller denominations or combined into fewer units of larger denominations, as long as the total amount is not changed.

- Holders may exchange or transfer their units at the office of the unit agent. Holders may also replace lost, stolen, destroyed or mutilated units at that office. We may appoint another entity to perform these functions or perform them ourselves.
- Holders will not be required to pay a service charge to transfer or exchange their units, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the holder's proof of legal ownership. The transfer agent may also require an indemnity before replacing any units.
- If we have the right to redeem, accelerate or settle any units before their maturity, and we exercise our right as to less than all those units or other securities, we may block the exchange or transfer of those units during the period beginning 15 days before the day we mail the notice of exercise and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers of or exchange any unit selected for early settlement, except that we will continue to permit transfers and exchanges of the unsettled portion of any unit being partially settled. We may also block the transfer or exchange of any unit in this manner if the unit includes securities that are or may be selected for early settlement.

Only the depository will be entitled to transfer or exchange a unit in global form, since it will be the sole holder of the unit.

### ***Payments and Notices***

In making payments and giving notices with respect to our units, we will follow the procedures as described in the applicable prospectus supplement.



## PLAN OF DISTRIBUTION

We may sell the offered securities in and outside the United States (1) through underwriters or dealers, (2) directly to one or more purchasers, including to a limited number of institutional purchasers, to a single purchaser or to our affiliates and stockholders, (3) through agents or (4) through a combination of any of these methods.

If underwriters or dealers are used in the sale, the securities will be acquired by the underwriters or dealers for their own account and may be resold from time to time in one or more transactions, including:

- in one or more transactions at a fixed price or prices, which may be changed from time to time;
- in “at-the-market offerings,” within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise;
- through a market maker or into an existing trading market on an exchange or otherwise;
- at prices related to those prevailing market prices; or
- at negotiated prices.

The applicable prospectus supplement will set forth the following information to the extent applicable:

- the terms of the offering;
- the names of any underwriters, dealers or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price of the securities;
- the net proceeds from the sale of the securities;
- any delayed delivery arrangements;
- any underwriting discounts, commissions and other items constituting underwriters’ compensation;
- any initial public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any commissions paid to agents.

### **Sale through Underwriters or Dealers**

If any securities are offered through underwriters, the underwriters will acquire the securities for their own account and may resell them 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. Underwriters may offer and sell securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless otherwise provided in the applicable prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all of the offered securities if they purchase any of them. In connection with the sale of securities, underwriters may be deemed to have received compensation from us in the form of underwriting discounts or commissions and dealers may receive compensation from the underwriters in the form of discounts or concessions. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers.

In order to facilitate the offering of securities, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. Specifically, the underwriters may overallocate in connection with the offering, creating a short position in the securities for their account. In addition, to cover overallocations or to stabilize the price of the shares, the underwriters may bid for, and purchase, shares in the open market. Finally, an underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed shares in transactions to cover syndicate short positions, in stabilization transactions, or otherwise. Any of these activities may stabilize or maintain the market price of the offered securities above independent market levels. The underwriters are not required to engage in these activities, and may discontinue any of these activities at any time.

Some or all of the securities that we offer through this prospectus may be new issues of securities with no established trading market. Any underwriters to whom we sell securities for public offering and sale may make a market in those securities, but they will not be obligated to do so and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities offered pursuant to this prospectus.

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If any securities are offered through dealers, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale.

### **Direct Sales and Sales through Agents**

We may sell the securities directly to purchasers. If the securities are sold directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities, we will describe the terms of any such sales in the applicable prospectus supplement. We may also sell the securities through agents designated from time to time. Sales may be made by means of ordinary brokers' transactions on The Nasdaq Global Select Market at market prices, in block transactions and such other transactions as agreed by us and any agent. In the applicable prospectus supplement, we will name any agent involved in the offer or sale of the offered securities, and we will describe any commissions payable to the agent. Unless otherwise provided in the applicable prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

### **At-the-Market Offerings**

To the extent that we make sales through one or more underwriters or agents in at-the-market offerings, we will do so pursuant to the terms of a sales agency financing agreement or other at-the-market offering arrangement between us, on one hand, and the underwriters or agents, on the other. If we engage in at-the-market sales pursuant to any such agreement, we will issue and sell our securities through one or more underwriters or agents, which may act on an agency basis or a principal basis. During the term of any such agreement, we may sell securities on a daily basis in exchange transactions or otherwise as we agree with the underwriters or agents. Any such agreement will provide that any securities sold will be sold at prices related to the then prevailing market prices for our securities. Therefore, exact figures regarding proceeds that will be raised or commissions to be paid cannot be determined at this time. Pursuant to the terms of the agreement, we may agree to sell, and the relevant underwriters or agents may agree to solicit offers to purchase blocks of our common stock or other securities. The terms of any such agreement will be set forth in more detail in the applicable prospectus supplement.

### **Remarketing Arrangements**

Offered securities may also be offered and sold, if we so indicate in the applicable prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as our agents. Any remarketing firm will be identified and the terms of its agreements, if any, with us and its compensation will be described in the applicable prospectus supplement. Remarketing firms may be deemed to be underwriters of the offered securities under the Securities Act.

### **Delayed Delivery Contracts**

If we so indicate in the applicable prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers by certain institutions to purchase securities from us pursuant to contracts providing for payment and delivery on a specified future date. The applicable prospectus supplement will describe the conditions to those contracts and the commission payable for solicitation of those contracts.

### **General Information**

We may have agreements with the agents, dealers, underwriters and remarketing firms to indemnify them against certain civil liabilities, including liabilities under the Securities Act, or to contribute with respect to payments that the agents, dealers or underwriters may be required to make. Agents, dealers, underwriters and remarketing firms may be customers of, engage in transactions with or perform services for us in the ordinary course of their businesses.

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Each underwriter, dealer and agent participating in the distribution of any of the securities that are issuable in bearer form will agree that it will not offer, sell or deliver, directly or indirectly, securities in bearer form in the United States or to United States persons, other than qualifying financial institutions, during the restricted period, as defined in United States Treasury Regulations Section 1.163-5(c)(2)(i)(D)(7).

## **LEGAL MATTERS**

Certain legal matters in connection with this offering will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. Any underwriters will also be advised about the validity of the securities and other legal matters by their own counsel, which will be named in the prospectus supplement.

## **EXPERTS**

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2021 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.



**\$300,000,000**

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

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**PROSPECTUS**

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**, 2022**

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**The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

**SUBJECT TO COMPLETION, DATED FEBRUARY 8, 2022**

**PROSPECTUS**



**Up to \$150,000,000**

**Common Stock**

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We previously entered into an Open Market Sale Agreement<sup>SM</sup>, or the sales agreement, with Jefferies LLC, or Jefferies, relating to the sale of shares of our common stock, par value \$0.01 per share, offered by this prospectus. We originally filed a prospectus supplement, dated August 4, 2020, or the Prior Prospectus Supplement, for the offer and sale of up to \$200,000,000 of shares of our common stock, from time to time through Jefferies, acting as our agent, pursuant to the sales agreement under the shelf registration statement on Form S-3 (Registration Statement No. 333-236389). As of the date of this prospectus, we have issued and sold \$27,544,154 of our common stock pursuant to the sales agreement and the Prior Prospectus Supplement. The common stock remaining available to be sold under the Prior Prospectus as of the date of this prospectus will no longer be offered and sold under the Prior Prospectus, but will instead be offered and sold under this prospectus. Accordingly, this prospectus covers the offer and sale of \$150,000,000 to be sold under the sales agreement as of the date of this prospectus.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "DCPH."

On February 4, 2022, the closing sale price of our common stock on The Nasdaq Global Select Market was \$7.97 per share.

Sales of our common stock, if any, under this prospectus may be made by any method permitted by law that is deemed an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, or the Securities Act. Jefferies is not required to sell any specific amount, but will act as our sales agent using commercially reasonable efforts consistent with its normal trading and sales practices. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

Jefferies will be entitled to compensation at a commission rate of up to 3.0% of the gross proceeds of shares sold under the sales agreement. See "Plan of Distribution" beginning on page S-13 for additional information regarding the compensation to be paid to Jefferies. In connection with the sale of our common stock on our behalf, Jefferies will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Jefferies will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Jefferies with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act.

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INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE “[RISK FACTORS](#)” ON PAGE S-8 OF THIS PROSPECTUS AND IN THE DOCUMENTS INCORPORATED BY REFERENCE IN THIS PROSPECTUS CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR COMMON STOCK.

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

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## Jefferies

The date of this prospectus is \_\_\_\_\_, 2022.

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission, or the SEC, utilizing a “shelf” registration process.

To the extent there is a conflict between the information contained in this prospectus and the information contained in any document incorporated by reference herein filed prior to the date of this prospectus, you should rely on the information in this prospectus; 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—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.

You should rely only on the information contained in, or incorporated by reference in this prospectus and in any free writing prospectus that we may authorize for use in connection with this offering. We have not, and Jefferies has not, authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We and Jefferies take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are not, and Jefferies is not, making an offer to sell, or soliciting an offer to purchase, the securities offered by this prospectus in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer or solicitation of an offer in such jurisdiction.

The information contained in this prospectus, the documents incorporated by reference herein, and in any free writing prospectus prepared by or on behalf of us that we may authorize for use in connection with this filing is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. It is important for you to read and consider all information contained in this prospectus, the documents incorporated by reference herein, and any free writing prospectus prepared by or on behalf of us that we may authorize for use in connection with this offering, in their entirety, before making an 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.

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 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 must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus outside the United States. This prospectus does 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 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 in this prospectus to “we,” “us,” “our,” “Deciphera,” “the Company” and similar designations refer, collectively, to Deciphera Pharmaceuticals, Inc., a Delaware corporation, and, where appropriate, its consolidated subsidiaries.

This prospectus contains references to our trademarks and to trademarks belonging to other entities. Third-party product and company names mentioned herein may be the trademarks of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. The Deciphera® word mark and logo and the QINLOCK® word mark and logo are registered trademarks of Deciphera Pharmaceuticals, LLC.

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference herein contain forward-looking statements, which reflect our current views with respect to, among other things, our operations and financial performance. All statements other than statements of historical facts contained in this prospectus and the information incorporated by reference herein regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth are forward-looking statements. You can identify these forward-looking statements by the use of words such as "outlook," "believes," "expects," "potential," "continues," "may," "will," "should," "seeks," "approximately," "predicts," "intends," "plans," "estimates," "anticipates," or the negative version of these words or other comparable words. Such forward-looking statements are subject to various risks and uncertainties. Accordingly, there are or will be important factors that could cause actual outcomes or results to differ materially from those indicated in these statements. We believe these factors include but are not limited to those described under "Risk Factors" and include, among other things:

- our ability to successfully commercialize QINLOCK for the treatment of adult patients with advanced gastrointestinal stromal tumor (GIST) who have received prior treatment with three or more kinase inhibitors, including imatinib, in the U.S., key European markets, and any other jurisdictions where we may receive marketing approval in the future;
- the success and cost of our plans to research, develop, and commercialize our drug candidates, including the timing of our product development activities and clinical trials, including the timing of our investigational new drug (IND) applications, and clearance thereof, for any other product candidates;
- our ability to successfully complete the Phase 3 MOTION study for vimseltinib in tenosynovial giant cell tumor (TGCT) patients, advance our DCC-3116 program through clinical development, and nominate additional drug candidates from our switch control inhibitor platform;
- our ability to obtain and maintain regulatory approval for QINLOCK or obtain and maintain regulatory approval for any of our current or future drug candidates, and any related restrictions, limitations, and/or warnings in the label of QINLOCK or any of our current or future drug candidates that may receive marketing approval;
- the rate and degree of market acceptance for QINLOCK or any current or future drug candidate for which we may receive marketing approval;
- our ability and plans in continuing to maintain our commercial infrastructure and successfully marketing and selling QINLOCK and any current or future drug candidate for which we may receive marketing approval, including our plans with respect to the focus and activities of our sales force, the nature of our marketing, market access, patient support activities, and our pricing of QINLOCK;
- the pricing and reimbursement of, and the extent to which patient assistance programs are utilized for, QINLOCK, or any current or future drug candidates for which we may receive marketing approval;
- our expectations regarding the size and growth potential of the markets for QINLOCK or any of our current or future drug candidates for which we may receive marketing approval and our ability to serve those markets;
- our ability to obtain funding for our operations;
- our ability to manufacture or obtain sufficient quantities of QINLOCK or our drug candidates, on a timely basis, to support our planned clinical trials and commercialization of QINLOCK or any of our current or future drug candidates for which we may receive marketing approval;
- the therapeutic benefit and effectiveness of QINLOCK and our drug candidates;

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- the safety profile and related adverse events of QINLOCK and our drug candidates;
- our commercial preparedness efforts and our ability to commercially launch our drug or drug candidates, if and when they are approved, including, without limitation, QINLOCK in Germany and France, and our ability to provide access in additional European countries through other channels;
- the performance and experience of our licensee, Zai Lab (Shanghai) Co., Ltd. (Zai), to successfully develop and commercialize QINLOCK in the People's Republic of China (the PRC), Hong Kong, Taiwan and, if approved, in Macau, these territories collectively referred to as Greater China, under the terms and conditions of our license agreement, and the performance of our distributors in other territories;
- our ability to attract additional licensees and/or collaborators or distributors with development, regulatory, and commercialization expertise;
- our expectations regarding our ability to obtain, maintain, enforce, and defend our intellectual property protection for QINLOCK or our drug candidates;
- future agreements with third parties in connection with the commercialization of QINLOCK or any of our current or future drug candidates for which we may receive marketing approval;
- regulatory and legal developments in the U.S. and foreign countries;
- our ability to comply with healthcare laws and regulations in the U.S., key European markets, and any other foreign countries, including, without limitation, those applying to the marketing and sale of commercial drugs;
- the performance and experience of our third-party suppliers and manufacturers;
- the success and timing of competing therapies that are or may become available;
- our ability to attract and retain key scientific, medical, commercial, and management personnel;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements, and needs for additional financing;
- the success of the implementation of our corporate restructuring intended to prioritize clinical development of select programs, streamline commercial operations, maintain a focus on discovery research, and extend our cash runway;
- the impact of global economic and political developments on our business, including economic slowdowns or recessions that may result from the continuing COVID-19 pandemic, which could harm our commercialization efforts for QINLOCK as well as the value of our common stock and our ability to access capital markets;
- natural and manmade disasters, including pandemics such as COVID-19, and other force majeure, which could impact our operations, and those of our partners and other participants in the health care industry, and which could adversely impact our clinical studies, preclinical research activities, and drug supply; and
- our use of the proceeds from our follow-on public offerings and any other financing transaction we may undertake.

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We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus and the information incorporated by reference herein and in the “Risk Factors” section of this prospectus and any related free writing prospectus, and in any other documents incorporated herein or therein (including in our most recent annual report on Form 10-K, subsequent quarterly reports on Form 10-Q and other filings we make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act), that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments that we may make.

You should read this prospectus and the information incorporated by reference herein completely and with the understanding that our actual future results may be materially different from what we expect. Any forward-looking statement speaks only as of the date of this prospectus. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

## PROSPECTUS SUMMARY

*This summary highlights certain information about us, this offering and selected information contained elsewhere in this prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information you should consider before investing in our common stock. For a more complete understanding of our company and this offering, you should carefully read this entire prospectus, including the information incorporated herein and any free writing prospectus that we may authorize for use in connection with this offering, including the “Risk Factors” section beginning on page S-8 of this prospectus and any related free writing prospectus, and in any other documents incorporated herein or therein (including in our most recent annual report on Form 10-K, subsequent quarterly reports on Form 10-Q and other filings we make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act), along with our condensed consolidated financial statements and notes to those condensed consolidated financial statements and the other documents incorporated by reference in this prospectus.*

### Deciphera Pharmaceuticals, Inc.

#### Overview

We are a biopharmaceutical company focused on discovering, developing, and commercializing important new medicines to improve the lives of people with cancer. Leveraging our proprietary switch-control kinase inhibitor platform and deep expertise in kinase biology, we design kinase inhibitors to target the switch pocket region of the kinase with the goal of developing potentially transformative medicines. Through our patient-inspired approach, we seek to develop a broad portfolio of innovative medicines to improve treatment outcomes. QINLOCK, our switch-control kinase inhibitor, was engineered using our proprietary drug discovery platform and developed for the treatment of fourth-line GIST. QINLOCK is approved in Australia, Canada, China, the European Union (EU), Hong Kong, Switzerland, Taiwan, the United States (U.S.), and the United Kingdom (U.K.) for the treatment of fourth-line GIST. We wholly own QINLOCK and all of our drug candidates with the exception of a development and commercialization out-license agreement for QINLOCK in Greater China. In addition to QINLOCK, we have identified and advanced multiple product candidates from our platform into clinical studies, including vimseltinib and DCC-3116.

We are focused on the commercialization of QINLOCK for the treatment of fourth-line GIST in the U.S., where we believe that QINLOCK has been established as the standard of care. Following QINLOCK’s European Commission (EC) approval in fourth-line GIST in November 2021, we have decided to focus our direct commercial efforts on Germany and France. We have launched QINLOCK in Germany and plan to transition to a post-approval paid access program in France in the first half of 2022, subject to program approval by the French National Authority for Health (HAS). We plan to provide access to QINLOCK to fourth-line GIST patients in additional European countries through other channels.

We have two additional clinical-stage assets, vimseltinib and DCC-3116. In January 2022, we announced that enrollment was underway in our Phase 3 MOTION study for vimseltinib, a CSF1R inhibitor, in patients with TGCT. Our Phase 1/2 study of vimseltinib in TGCT patients is ongoing and we expect to provide updated data in the second half of 2022. We are also advancing DCC-3116, our potential first-in-class drug candidate targeting the ULK kinase to inhibit autophagy. DCC-3116 is in the dose escalation phase of a Phase 1 study in patients with mutant RAS and RAF cancers, and we expect to provide initial Phase 1 dose escalation data, as well as additional preclinical data on DCC-3116, in 2022. Following and subject to the selection of a recommended Phase 2 dose of DCC-3116 from the monotherapy dose escalation portion of the Phase 1 study of DCC-3116, we plan to initiate the Phase 1 combination dose escalation cohorts with trametinib in 2022 and, subject to feedback from regulatory authorities, expand this study to add a combination with a mutant KRAS G12C inhibitor in non-small cell lung cancer patients. In addition, we intend to continue to explore preclinical combinations of DCC-3116 with other agents. Finally, we continue to invest in our next generation of research programs, which are designed to provide first-in-class or best-in-class treatments using our proprietary switch-control inhibitor platform. Our goal for 2022 is to nominate a development candidate for our pan-RAF research program, which targets inhibition of BRAF and CRAF kinases.

**Company History and Information**

Deciphera Pharmaceuticals, LLC was formed and commenced operations in 2003. Deciphera Pharmaceuticals, Inc. was incorporated under the laws of Delaware on August 1, 2017, for the sole purpose of completing an initial public offering and related transactions in order to carry on the business of Deciphera Pharmaceuticals, LLC. We are the sole managing member of Deciphera Pharmaceuticals, LLC and conduct all our business through, operate and control all of the businesses and affairs of Deciphera Pharmaceuticals, LLC, our wholly owned subsidiary, directly or through blocker entities which are also wholly owned by us. Our common stock is listed on The Nasdaq Global Select Market under the symbol “DCPH.”

Our principal executive offices are located at 200 Smith Street, Waltham, MA 02451, and our telephone number is (781) 209-6400. Our corporate website address is [www.deciphera.com](http://www.deciphera.com). Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

## The Offering

<b>Common stock offered by us</b>	Shares of our common stock, par value \$0.01 per share, or common stock, having an aggregate offering price of up to \$150,000,000.
<b>Common stock to be outstanding immediately after this offering</b>	Up to 18,820,577 shares, assuming sales at a price of \$7.97 per share, which was the closing price of our common stock on The Nasdaq Global Select Market on February 4, 2022. The actual number of shares issued will vary depending on how many shares of our common stock we choose to sell and the prices at which such sales occur.
<b>Plan of Distribution</b>	“At the market offering” that may be made from time to time on The Nasdaq Global Select Market through our agent, Jefferies LLC. See the section entitled “Plan of Distribution” on page S-13 of this prospectus.
<b>Use of Proceeds</b>	Our management will retain broad discretion regarding the allocation and use of the net proceeds. We currently intend to use the net proceeds from this offering for general corporate purposes, which may include research and development costs, including the conduct of one or more clinical trials and process development and manufacturing of our product candidates, potential strategic acquisitions or licensing of complementary businesses, services or technologies, expansion of our technology infrastructure and capabilities, working capital, capital expenditures and other general corporate purposes. See the section titled “Use of Proceeds” on page S-10 of this prospectus.
<b>Risk Factors</b>	Investing in our common stock involves significant risks. See “Risk Factors” beginning on page S-8 of this prospectus and the other information included in, or incorporated by reference into, this prospectus for a discussion of certain factors you should carefully consider before deciding to invest in shares of our common stock.
<b>The Nasdaq Global Select Market symbol</b>	DCPH

All information in this prospectus related to the number of shares of our common stock to be outstanding immediately after this offering is based on 58,549,644 shares of our common stock issued and outstanding as of December 31, 2021 and excludes:

- 643,517 shares of our common stock issuable upon the exercise of stock options granted under our 2015 Equity Incentive Plan, or the 2015 Plan, at a weighted-average exercise price of \$4.95 per share;
- 6,795,991 shares of our common stock issuable upon the exercise of stock options granted under our 2017 Stock Option and Incentive Plan, or the 2017 Plan, at a weighted-average exercise price of \$31.59 per share;
- 1,537,732 shares of our common stock issuable upon the settlement of unvested restricted stock units granted under our 2017 Plan;
- 615,131 shares of our common stock reserved for future issuance under our 2017 Plan; and
- 1,681,188 shares of our common stock reserved for issuance under our 2017 Employee Stock Purchase Plan.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options described above.

## RISK FACTORS

*Investing in our common stock involves a high degree of risk. Before investing in our common stock, you should consider carefully the risks described below and in our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, as well as any amendments thereto reflected in subsequent filings filed with the Securities and Exchange Commission, or SEC, together with the other information contained in this prospectus and in our filings with the SEC that we have incorporated by reference in this prospectus and in any free writing prospectus that we may authorize for use in connection with this offering. If any of the following risks occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties that are not yet identified or that we currently believe to be immaterial may also materially harm our business, financial condition, results of operations and prospects and could result in a complete loss of your investment. Additional risks and uncertainties that are not yet identified or that we currently believe to be immaterial may also materially harm our business, financial condition, results of operations and prospects and could result in a complete loss of your investment.*

### **Risks Related to this Offering and Our Common Stock**

***We have broad discretion in the use of our cash and cash equivalents, including the net proceeds we receive in this offering, and may not use them effectively.***

Our management has broad discretion to use our cash and cash equivalents, including the net proceeds we receive in this offering, if any, to fund our operations and could spend these funds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our drug candidates. Pending their use to fund our operations, we may invest our cash and cash equivalents, including the net proceeds from this offering, in a manner that does not produce income or that loses 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 at the time of sale. Assuming that an aggregate of 18,820,577 shares of our common stock are sold at a price of \$7.97 per share, the last reported sale price of our common stock on The Nasdaq Global Select Market on February 4, 2022, for aggregate gross proceeds of \$150.0 million, after deducting commissions payable by us, investors in this offering would experience immediate dilution of \$2.15 per share, representing the difference between our as-adjusted net tangible book value per share as of December 31, 2021, after giving effect to this offering and the assumed offering price.

The price per share of our common stock in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Therefore, if you purchase shares of our common stock in this offering, you may pay a price per share that substantially exceeds our net tangible book value per share after this offering. To the extent shares are issued under outstanding options at exercise prices lower than the price of our common stock in this offering, you will incur further dilution. See the section entitled “Dilution” 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.



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***Sales of a significant number of shares of our common stock in this offering or the public markets in general, or the perception that such sales could occur, could depress the market price of our common stock.***

We expect that significant additional capital may be needed in the future to continue our planned operations, including conducting clinical trials, expanded research and development activities, and costs associated with operating as a public company. To raise capital, we may sell common stock, convertible securities, or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities, or other equity securities, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences, and privileges senior to the holders of our common stock, including shares of common stock sold in this offering.

We may issue and sell shares of our common stock for aggregate gross proceeds of up to \$150 million from time to time in connection with this offering. The issuance and sale from time to time of these new shares of common stock, or our ability to issue these new shares of common stock in this offering could have the effect of depressing the market price of our common stock. Further, sales of a substantial number of shares of our common stock in the public markets, or the perception that such sales could occur, could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities.

***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 placement notices to Jefferies LLC, or Jefferies, at any time throughout the term of the sales agreement. The number of shares that are sold by Jefferies after delivering a placement notice will fluctuate based on the market price of the common stock during the sales period and limits we set with Jefferies. 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.

## USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate sales proceeds of up to \$150,000,000 from time to time. The amount of proceeds from this offering will depend upon the number of shares of our common stock sold and the market price at which they are sold. There can be no assurance that we will be able to sell any shares under or fully utilize the sales agreement with Jeffries as a source of financing. Therefore, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time.

We intend to use any net proceeds from this offering for general corporate purposes. General corporate purposes may include research and development costs, including the conduct of one or more clinical trials and process development and manufacturing of our product candidates, potential strategic acquisitions or licensing of complementary businesses, services or technologies, expansion of our technology infrastructure and capabilities, working capital, capital expenditures and other general corporate purposes. We may temporarily invest the net proceeds in a variety of capital preservation instruments, including investment grade, interest bearing instruments and U.S. government securities, until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

The expected use of net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual revenue and expenditures may vary significantly depending on numerous factors, including the commercial success of QINLOCK and of any future approved drugs, progress of our clinical development programs, feedback and decisions from regulatory authorities, the status of and results from clinical trials, as well as any collaborations that we may enter into with third parties for our products or drug candidates, and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering. We may find it necessary or advisable to use the net proceeds from this offering for other purposes, and we will have broad discretion in the application of net proceeds.

Pending use of the proceeds as described above, we intend to invest the proceeds in a variety of capital preservation investments, including short-term, interest-bearing instruments, investment-grade and U.S. government securities.

## DILUTION

If you invest in this offering, your ownership interest will be diluted immediately to the extent of the difference between the public offering price per share and the as-adjusted net tangible book value per share of our common stock, par value \$0.01 per share, or common stock, after giving effect to this offering. We calculate net tangible book value per share by dividing the net tangible book value, which is tangible assets less total liabilities, by the number of outstanding shares of our common stock. Dilution represents the difference between the portion of the amount per share paid by purchasers of shares in this offering and the as-adjusted net tangible book value per share of our common stock immediately after giving effect to this offering. Our net tangible book value as of December 31, 2021 was approximately \$304.7 million, or \$5.20 per share.

After giving effect to the sale of our common stock pursuant to this prospectus in the aggregate amount of \$150 million at an assumed offering price of \$7.97 per share, the last reported sale price of our common stock on The Nasdaq Global Select Market on February 4, 2022, and after deducting commissions and estimated aggregate offering expenses payable by us, our net tangible book value as of December 31, 2021 would have been \$450.1 million, or \$5.82 per share of common stock. This represents an immediate increase in the net tangible book value of \$0.62 per share to our existing stockholders and an immediate dilution in net tangible book value of \$2.15 per share to new investors. The following table illustrates this per share dilution:

Assumed offering price per share	\$7.97
Net tangible book value per share as of December 31, 2021	\$5.20
Increase per share attributable to new investors	<u>\$0.62</u>
As-adjusted net tangible book value per share as of December 31, 2021 after giving effect to this offering	<u>\$5.82</u>
Dilution per share to new investors purchasing shares in this offering	<u>\$2.15</u>

The table above assumes for illustrative purposes that an aggregate of 18,820,577 shares of our common stock are sold pursuant to this prospectus at a price of \$7.97 per share, the last reported sale price of our common stock on The Nasdaq Global Select Market on February 4, 2022, for aggregate gross proceeds of \$150 million. The shares sold in this offering, if any, will be sold from time to time at various prices. An increase of \$1.00 per share in the price at which the shares are sold from the assumed offering price to \$8.97 per share, assuming all of our common stock in the aggregate amount of \$150 million is sold at that price, would result in an adjusted net tangible book value per share after the offering of \$5.98 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$2.99 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$1.00 per share in the price at which the shares are sold from the assumed offering price to \$6.97 per share, assuming all of our common stock in the aggregate amount of \$150 million is sold at that price, would result in an adjusted net tangible book value per share after the offering of \$5.62 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$1.35 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

The information above and in the foregoing table is based on 58,549,644 shares of our common stock issued and outstanding as of December 31, 2021 and excludes the following:

- 643,517 shares of our common stock issuable upon the exercise of stock options granted under our 2015 Plan, at a weighted-average exercise price of \$4.95 per share;
- 6,795,991 shares of our common stock issuable upon the exercise of stock options granted under our 2017 Plan, at a weighted-average exercise price of \$31.59 per share
- 1,537,732 shares of our common stock issuable upon the settlement of unvested restricted stock units granted under our 2017 Plan;
- 615,131 shares of our common stock available for future issuance under our 2017 Plan; and
- 1,681,188 shares of our common stock reserved for issuance under our 2017 Employee Stock Purchase Plan.

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To the extent that options and restricted stock units outstanding as of December 31, 2021 have been or may be exercised or settle, as applicable, or other shares issued, investors purchasing our common stock in this offering may 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 we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

## PLAN OF DISTRIBUTION

We previously entered into an Open Market Sale Agreement<sup>SM</sup> with Jefferies, relating to the sale of shares of our common stock, par value \$0.01 per share, offered by this prospectus. We originally filed the Prior Prospectus Supplement for the offer and sale of up to \$200,000,000 of shares of our common stock, from time to time through Jefferies, acting as our agent, pursuant to the sales agreement under the shelf registration statement on Form S-3 (Registration Statement No. 333-236389). As of the date of this prospectus, we have issued and sold \$27,544,154 of our common stock pursuant to the sales agreement and the Prior Prospectus Supplement. The common stock remaining available to be sold under the Prior Prospectus as of the date of this prospectus will no longer be offered and sold under the Prior Prospectus, but will instead be offered and sold under this prospectus. Accordingly, this prospectus covers the offer and sale of \$150,000,000 to be sold under the sales agreement as of the date of this prospectus.

Each time we wish to issue and sell shares of common stock under the sales agreement, we will notify Jefferies of the number of shares to be issued, the dates on which such sales are anticipated to be made, any limitation on the number of shares to be sold in any one day and any minimum price below which sales may not be made. Once we have so instructed Jefferies, unless Jefferies declines to accept the terms of such notice, Jefferies 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 Jefferies under the sales agreement to sell our shares of common stock are subject to a number of conditions that we must meet.

The settlement of sales of shares between us and Jefferies is generally anticipated to occur on the second trading day following the date on which the sale was made. Sales of our shares of common stock as contemplated in this prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and Jefferies may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay Jefferies a commission of up to 3.0% of the aggregate gross proceeds we receive from each sale of our shares of common stock. 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. In addition, we have agreed to reimburse Jefferies for the fees and disbursements of its counsel, payable upon execution of the sales agreement, in an amount not to exceed \$50,000, in addition to certain ongoing disbursements of its legal counsel, unless we and Jefferies otherwise agree. We estimate that the total expenses for the offering, excluding any commissions or expense reimbursement payable to Jefferies under the terms of the sales agreement, will be approximately \$580,000. The remaining sale proceeds, after deducting any other transaction fees, will equal our net proceeds from the sale of such shares.

Jefferies will provide written confirmation to us before the open on The Nasdaq Global Select Market on the day following each day on which shares of common stock are sold under the sales agreement. Each confirmation will include the number of shares sold on that day, the aggregate gross proceeds of such sales and the proceeds to us.

In connection with the sale of the shares of common stock on our behalf, Jefferies will be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation of Jefferies will be deemed to be underwriting commissions or discounts. We have agreed to indemnify Jefferies against certain civil liabilities, including liabilities under the Securities Act. We have also agreed to contribute to payments Jefferies may be required to make in respect of such liabilities.

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

This summary of the material provisions of the sales agreement does not purport to be a complete statement of its terms and conditions. A copy of the sales agreement is incorporated by reference in this prospectus.

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Jefferies and its affiliates may in the future provide various investment banking, commercial banking, financial advisory and other financial services for us and our affiliates, for which services they may in the future receive customary fees. In the course of its business, Jefferies may actively trade our securities for its own account or for the accounts of customers, and, accordingly, Jefferies may at any time hold long or short positions in such securities.

A prospectus in electronic format may be made available on a website maintained by Jefferies, and Jefferies may distribute the prospectus electronically.

### **LEGAL MATTERS**

The validity of the shares of common stock offered hereby will be passed upon for us by Goodwin Procter LLP, New York, New York. Jefferies LLC is being represented in connection with this offering by Cooley LLP, New York, New York.

### **EXPERTS**

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2021 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

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

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission, or SEC. Our SEC filings are available to the public over the Internet at the SEC's website at [www.sec.gov](http://www.sec.gov). Copies of certain information filed by us with the SEC are also available on our website at [www.deciphera.com](http://www.deciphera.com). The information contained on our website is not incorporated by reference into this prospectus and, therefore, is not part of this prospectus.

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and the securities, including certain exhibits and schedules. For more detail about us and any securities that may be offered by this prospectus, you may examine the registration statement on Form S-3ASR and the exhibits filed with it at the locations listed in the previous paragraph. Please be aware that statements in this prospectus referring to a contract or other document are summaries and you should refer to the exhibits that are part of the registration statement for a copy of the contract or document.

### **INCORPORATION OF CERTAIN INFORMATION BY REFERENCE**

The SEC allows us to incorporate by reference in this prospectus much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below (File No. 001-38219) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) until the offering of the securities under the registration statement is terminated or completed:

- Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on February 8, 2022;

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- Definitive Proxy Statement on [Schedule 14A](#), filed with the SEC on April 29, 2021, to the extent incorporated by reference into Part III of the Annual Report on Form 10-K for the fiscal year ended December 31, 2020; and
- the description of our Common Stock contained in our Registration Statement on [Form 8/A](#), dated September 27, 2017, and as set forth by the description of the Registrant's common stock set forth in [Exhibit 4.4](#) to the Registrant's Annual Report on [Form 10-K](#) for the year ended December 31, 2020, filed with the Commission on February 9, 2021, including any other amendments or reports filed for the purpose of updating such description.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to Deciphera Pharmaceuticals, Inc., 200 Smith Street, Waltham, Massachusetts 02451, Attention: Secretary or by telephone request to (781) 209-6400.



**Up to \$150,000,000**

**Common Stock**

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**PROSPECTUS**

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**Jefferies**

, 2022

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**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

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

Set forth below is an estimate (except in the case of the registration fee) of the amount of fees and expenses to be incurred in connection with the issuance and distribution of the offered securities, other than underwriting discounts and commissions.

SEC Registration fee	\$27,810(1)	
FINRA filing fee	23,000	
Legal fees and expenses		*
Accounting fees and expenses		*
Printing expenses		*
Transfer agent and registrar fees		*
Trustee fees (including counsel fees)		*
Miscellaneous		*
Total		*

\* These fees and expenses depend on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

(1) The registrant previously paid a fee of \$25,960 related to \$200,000,000 of the registrant's common stock pursuant to the Prior Prospectus. Of such shares of common stock, \$172,455,846 remain unsold, and the registration fee in the amount of \$22,384 related thereto is applied to the registrant's total registration fee hereunder.

**Item 15. Indemnification of Directors and Officers**

Section 145 of the Delaware General Corporation Law authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors, and other corporate agents.

Our amended and restated certificate of incorporation contains provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for the following:

- any breach of their duty of loyalty to our company or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which they derived an improper personal benefit.

Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to that amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

In addition, pursuant to our amended and restated bylaws, we will indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action, suit or proceeding by reason of the fact that he is or was one of our directors or officers or is or was serving at our request as a director or officer of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws provide that we may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he is or was one of our employees or agents or is or was serving at our request as an employee or agent of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to very limited exceptions.

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We have also entered into indemnification agreements with each of our directors and executive officers that are broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements require us, among other things, to indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require us to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit, or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

The limitation of liability and indemnification provisions that are included in our amended and restated certificate of incorporation, amended and restated bylaws, and indemnification agreements that we entered into with our directors and executive officers may discourage stockholders from bringing a lawsuit against our directors and executive officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against our directors and executive officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be harmed to the extent that we pay the costs of settlement and damage awards against directors and executive officers as required by these indemnification provisions. At present, we are not aware of any pending litigation or proceeding involving any person who is or was one of our directors, officers, employees or other agents or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

We have obtained insurance policies under which, subject to the limitations of the policies, coverage is provided to our directors and executive officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or executive officer, including claims relating to public securities matters, and to us with respect to payments that may be made by us to these directors and executive officers pursuant to our indemnification obligations or otherwise as a matter of law.

Any underwriting agreements that we may enter into will likely provide for the indemnification of us, our controlling persons, our directors and certain of our officers by the underwriters against certain liabilities, including liabilities under the Securities Act.

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### **Item 16. Exhibits**

<b>Exhibit No.</b>	<b>Description</b>
1.1*	Form(s) of underwriting agreement(s).
1.2	<a href="#">Open Market Sale Agreement<sup>SM</sup>, dated August 4, 2020, by and between Deciphera Pharmaceuticals, Inc. and Jefferies LLC (Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on August 4, 2020).</a>
2.1	<a href="#">Reorganization Agreement and Plan of Merger by and among the Registrant, Deciphera Pharmaceuticals, LLC and the other parties named therein, dated October 2, 2017 (Incorporated by reference to Exhibit 2.1 to the Registrant's Quarterly Report on Form 10-Q filed on November 14, 2017)(1).</a>
3.1	<a href="#">Amended and Restated Certificate of Incorporation of the Registrant (Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on October 5, 2017).</a>
3.2	<a href="#">Amended and Restated Bylaws of the Registrant (Incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on October 5, 2017).</a>
4.1	<a href="#">Specimen Common Stock Certificate (Incorporated by reference to Exhibit 4.1 to Amendment No. 3 to the Registrant's Registration Statement on Form S-1 filed on September 22, 2017).</a>
4.2	<a href="#">Second Amended and Restated Investors' Rights Agreement among Deciphera Pharmaceuticals, LLC and certain of its shareholders, dated May 26, 2017 (Incorporated by reference to Exhibit 4.2 to Amendment No. 1 to the Registrant's Registration Statement on Form S-1 filed on September 11, 2017).</a>
4.3	<a href="#">Registration Rights Agreement by and among the Registrant and certain of its stockholders, dated October 2, 2017 (Incorporated by reference to Exhibit 4.1 to the Registrant's Quarterly Report on Form 10-Q filed on November 14, 2017).</a>
4.4	<a href="#">Form of indenture for senior debt securities and the related form of senior debt security (Incorporated by reference to Exhibit 4.4 to the Registrant's Registration Statement on Form S-3 filed on February 12, 2020).</a>
4.5	<a href="#">Form of indenture for subordinated debt securities and the related form of subordinated debt security (Incorporated by reference to Exhibit 4.5 to the Registrant's Registration Statement on Form S-3 filed on February 12, 2020).</a>
4.6*	Form of Certificate of Designations.
4.7*	Form of Warrant Agreement.
4.8*	Form of Unit Certificate.
4.9*	Form of Preferred Stock Certificate.
5.1	<a href="#">Opinion of Goodwin Procter LLP (Incorporated by reference to Exhibit 5.1 to Amendment No. 1 to Automatic Shelf Registration Statement on Form S-3 filed on February 8, 2022).</a>
5.2	<a href="#">Opinion of Goodwin Procter LLP relating to the sales agreement prospectus (Incorporated by reference to Exhibit 5.1 to the Registrant's Current Report on Form 8-K filed on August 4, 2020).</a>
23.1	<a href="#">Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.</a>
23.2	<a href="#">Consent of Goodwin Procter LLP (included in Exhibit 5.1 hereto).</a>
23.3	<a href="#">Consent of Goodwin Procter LLP (included in Exhibit 5.2 hereto).</a>
24.1	<a href="#">Power of Attorney (included in the signature pages to this registration statement).</a>
25.1†	Form T-1 Statement of Eligibility of Trustee for Senior Indenture under the Trust Indenture Act of 1939.
25.2†	Form T-1 Statement of Eligibility of Trustee for Subordinated Indenture under the Trust Indenture Act of 1939.

\* To be filed by amendment or as exhibit(s) to a Current Report of the Registrant on Form 8-K and incorporated herein by reference, as applicable.

† To be filed pursuant to Section 305(b)(2) of the U.S. Trust Indenture Act of 1939, as applicable.

- (1) Schedules and exhibits have been omitted from this filing pursuant to Item 601(b)(2) of Regulation S-K. The registrant agrees to furnish supplementally a copy of any omitted schedule or exhibit to the Securities and Exchange Commission upon its request; provided, however, that the registrant may request confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, for any schedule or exhibit so furnished.

### **Item 17. Undertakings**

(a) The undersigned Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
- (i) To include any prospectus required by section 10(a)(3) of the Securities Act;

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

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

- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
  - (i) Each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
  - (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.
- (5) That, for the purpose of determining liability of the Registrant under the Securities Act to any purchaser in the initial distribution of the securities:

The undersigned Registrant undertake that in a primary offering of securities of the undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned Registrant will be sellers to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;

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- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or their securities provided by or on behalf of the undersigned Registrant; and
  - (iv) Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.
- (6) The undersigned Registrant hereby further undertakes that, for the purposes of determining any liability under the Securities Act, each filing of the annual reports of the Registrant pursuant to Section 13(a) or Section 15(d) of the Exchange Act that are incorporated by reference in this registration statement, if any, shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (7) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under sub section (a) of section 310 of the Trust Indenture Act (“Act”) in accordance with the rules and regulations prescribed by the Commission under section 305(b)(2) of the Act.

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

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Post-Effective Amendment No. 2 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Waltham, State of Massachusetts, on February 8, 2022.

### DECIPHERA PHARMACEUTICALS, INC.

By: /s/ Steven L. Hoerter

Steven L. Hoerter  
President, Chief Executive Officer and Director  
(Principal Executive Officer)

## POWER OF ATTORNEY

We, the undersigned directors and officers of Deciphera Pharmaceuticals, Inc. (the Company), hereby severally constitute and appoint Steven L. Hoerter and Thomas P. Kelly, and each of them singly, our true and lawful attorneys, with full power to them, and to each of them singly, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-3 filed herewith, and any and all pre-effective and post-effective amendments to said registration statement, and any registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, in connection with the registration under the Securities Act of 1933, as amended, of equity securities of the Company, and to file or cause to be filed the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as each of them might or could do in person, and hereby ratifying and confirming all that said attorneys, and each of them, or their substitute or substitutes, shall do or cause to be done by virtue of this Power of Attorney. This Power of Attorney does not revoke any power of attorney previously granted by the undersigned, or any of them.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Post-Effective Amendment No. 2 to the Registration Statement has been signed by the following persons in the capacities indicated on the date indicated:

Signature	Title	Date
<u>/s/ Steven L. Hoerter</u> Steven L. Hoerter	President, Chief Executive Officer and Director (Principal Executive Officer)	February 8, 2022
<u>/s/ Thomas P. Kelly</u> Thomas P. Kelly	Executive Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)	February 8, 2022
<u>/s/ Patricia L. Allen</u> Patricia L. Allen	Director	February 8, 2022
<u>/s/ Edward J. Benz, Jr.</u> Edward J. Benz Jr., M.D.	Director	February 8, 2022

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Signature	Title	Date
<u>/s/ James A. Bristol</u> James A. Bristol, Ph.D.	Director	February 8, 2022
<u>/s/ Frank S. Friedman</u> Frank S. Friedman	Director	February 8, 2022
<u>/s/ Susan L. Kelley</u> Susan L. Kelley, M.D.	Director	February 8, 2022
<u>/s/ John R. Martin</u> John R. Martin	Director	February 8, 2022
<u>/s/ Ron Squarer</u> Ron Squarer	Director	February 8, 2022
<u>/s/ Dennis L. Walsh</u> Dennis L. Walsh	Director	February 8, 2022

## CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of Deciphera Pharmaceuticals, Inc. of our report dated February 8, 2022 relating to the financial statements, and the effectiveness of internal control over financial reporting, which appears in Deciphera Pharmaceuticals, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts

February 8, 2022