

Up to \$75,000,000

Common Stock

This prospectus supplement is being filed to update, amend and supplement certain information in the sales prospectus of Pieris Pharmaceuticals, Inc. dated August 13, 2021 (including any documents incorporated by reference therein), or the Prior ATM Sales Prospectus. The Prior ATM Sales Prospectus will no longer be in effect as of the date of this prospectus supplement.

We previously entered into an Open Market Sale AgreementSM, or the Sales Agreement, with Jefferies LLC, or Jefferies, acting as sales agent, relating to our common stock, par value \$0.001 per share, offered by the Prior ATM Sales Prospectus. On November 4, 2022, we entered into an amendment to the Sales Agreement. In accordance with the terms of the Sales Agreement, as amended, or the Amended Sales Agreement, under this prospectus supplement, we may now, through our sales agent, offer and sell from time to time shares of our common stock having an aggregate offering price of up to \$75,000,000, exclusive of any amounts previously sold under the Sales Agreement for gross proceeds of \$33,610,121 and net proceeds of approximately \$32.6 million, after deducting commissions to the sales agent on the shares sold and offering expenses.

Our common stock is listed on Nasdaq Capital Market under the symbol "PIRS." The last reported sale price of our common stock on November 2, 2022 was \$1.02 per share.

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus may be made in sales deemed to be "at the market offerings" as defined in Rule 415(a)(4) under the Securities Act of 1933, as amended, or the Securities Act. Jefferies is not required to sell any specific number or dollar amount of securities, but subject to the terms and conditions of the Amended Sales Agreement, will act as sales agent on a best efforts basis and use commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between us and Jefferies. 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 3.0% of the gross sales price per share of common stock sold under the Sales Agreement. In connection with the sale of shares 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. See "Plan of Distribution" beginning on page S-5 for additional information regarding the compensation to be paid to Jefferies.

Investing in our common stock involves risk. Before you make an investment in our shares, please read the section entitled "Risk Factors" beginning on page 52 of our Annual Report on Form 10-K filed with the Securities and Exchange Commission, or the SEC, on March 2, 2022, as updated by our subsequent Quarterly Reports on Form 10-Q filed and other filings with the SEC under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are incorporated herein by reference. Further, all information included in our Prior ATM Sales Prospectus is incorporated herein by reference.

Neither the SEC nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus are truthful or complete. Any representation to the contrary is a criminal offense.

Jefferies

The date of this prospectus supplement is November 4, 2022.

THE OFFERING	PAGE S-1
DILUTION	S-3
PLAN OF DISTRIBUTION	S-5
LEGAL MATTERS	S-7
EXPERTS	S-8
INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE	S-9
ABOUT THIS PROSPECTUS	<u>РАGE</u> 1
PROSPECTUS SUMMARY	2
RISK FACTORS	9
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS	10
USE OF PROCEEDS	12
PLAN OF DISTRIBUTION	13
DESCRIPTION OF COMMON STOCK	15
DESCRIPTION OF PREFERRED STOCK	17
DESCRIPTION OF DEBT SECURITIES	19
DESCRIPTION OF WARRANTS	25
DESCRIPTION OF RIGHTS	27
DESCRIPTION OF UNITS	29
CERTAIN PROVISIONS OF NEVADA LAW AND OF THE COMPANY'S ARTICLES OF INCORPORATION AND BYLAWS	31
LEGAL MATTERS	36
EXPERTS	37
WHERE YOU CAN FIND MORE INFORMATION	38
INCORPORATION OF DOCUMENTS BY REFERENCE	39

THE OFFERING		
Common stock offered by us:	Shares of our common stock having an aggregate offering price of up to \$75,000,000	
Common stock to be outstanding after this offering:	Up to 147,935,664 shares of common stock (as more fully described in the notes following this table), assuming sales at an offering price of \$1.02 per share, which was the last reported sale price of our common stock on the Nasdaq Capital Market on November 2, 2022. The actual number of shares issued will vary depending on the sales price under this offering.	
Plan of Distribution:	"At the market offering" that may be made from time to time on the Nasdaq Capital Market or other existing trading market for our common stock through our sales agent, Jefferies LLC, or Jefferies. See "Plan of Distribution" on page S-5 of this prospectus supplement.	
Use of Proceeds:	We intend to use the net proceeds from this offering for clinical trial costs and other research and development expenses; continued investment in our drug development platform; and working capital, capital expenditures and general and administrative expenses. See "Use of Proceeds" in our Prior ATM Sales Prospectus.	
Risk Factors:	See " <i>Risk Factors</i> " beginning on page 52 of our Annual Report on Form 10-K filed with the SEC on March 2, 2022, as updated by our subsequent Quarterly Reports on Form 10-Q and other filings with the SEC under the Exchange Act for a discussion of factors you should carefully consider before deciding to invest in shares of our common stock. Further, all information included in our Prior ATM Sales Prospectus is incorporated herein by reference.	
Nasdaq Capital Market symbol:	"PIRS"	
The number of shares of common stock to be outstanding after this offering is based on an aggregate of 74,406,253 shares of common stock outstanding as of September 30, 2022 and excludes the following. All amounts below are as of September 30, 2022:		

- 85,000 shares of common stock issuable upon the conversion of shares of Series A Convertible Preferred Stock;
- 4,026,000 shares of common stock issuable upon the conversion of shares of Series B Convertible Preferred Stock;
- 3,506,000 shares of common stock issuable upon the conversion of shares of Series C Convertible Preferred Stock;
- 3,000,000 shares of common stock issuable upon the conversion of shares of Series D Convertible Preferred Stock;
- 5,000,000 shares of common stock issuable upon the conversion of shares of Series E Convertible Preferred Stock;
- 9,014,960 shares of common stock issuable upon the exercise of warrants issued on November 6, 2019, at an exercise price of \$7.10 per share;

- 2,531,403 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2014 employee, director, and consultant equity incentive plan, or the 2014 Plan, at a weighted average exercise price of \$1.91 per share:
- 2,460,585 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2016 employee, director, and consultant equity incentive plan, or the 2016 Plan, at a weighted average exercise price of \$5.36 per share;
- 1,572,071 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2018 employee, director, and consultant equity incentive plan, or the 2018 Plan, at a weighted average exercise price of \$3.19 per share;
- 1,657,196 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2019 employee, director, and consultant equity incentive plan, or the 2019 Plan, at a weighted average exercise price of \$3.23 per share;
- 5,568,642 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2020 employee, director, and consultant equity incentive plan, or the 2020 Plan, at a weighted average exercise price of \$2.88 per share;
- 3,997,982 shares of common stock reserved for future issuance under the 2020 Plan and 184,471 shares available for sale under the 2018 Employee Stock Purchase Plan, or 2018 ESPP; and
- 390,000 shares of common stock issuable upon the exercise of outstanding stock options issued to a certain employee as inducement awards upon their entering into employment with the company, at an exercise price of \$4.38 per share.

Unless otherwise indicated, all information in this prospectus supplement assumes no conversion of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock, Series D Convertible Preferred Stock, or Series E Convertible Preferred Stock, no exercise of the outstanding warrants and options described above, and no issuance of shares of common stock pursuant to the 2018 ESPP.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share in this offering and the as adjusted net tangible book value per share immediately after this offering. The net tangible book value of our common stock as of September 30, 2022 was approximately \$35.7 million, or approximately \$0.48 per share based upon 74,406,253 shares of common stock outstanding as of September 30, 2022. Net tangible book value per share is equal to our total tangible assets, less our total liabilities, divided by the total number of shares of common stock outstanding as of September 30, 2022.

Net tangible book value dilution per share to investors participating in this offering represents the difference between the amount per share paid by purchasers of common stock in this offering and the as adjusted net tangible book value per share immediately after this offering. After giving effect to the sale of 73,529,412 shares of common stock in this offering at an assumed public offering price of \$1.02 per share, the last reported sale price of our common stock on the Nasdaq Capital Market on November 2, 2022, and after deducting discounts and commissions and estimated aggregate offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2022 would have been approximately \$108.4 million, or approximately \$0.73 per share. This represents an immediate increase in as adjusted net tangible book value of \$0.25 per share to our existing shareholders and an immediate dilution in net tangible book value of \$0.29 per share to investors participating in this offering at the public offering price.

Dilution per share to new investors is determined by subtracting as adjusted net tangible book value per share after this offering from the assumed public offering price per share paid by new investors. The following table illustrates this per share dilution to new investors:

Assumed public offering price per share		\$1.02
Historical net tangible book value per share as of September 30, 2021	\$0.48	
Increase in net tangible book value per share attributable to the offering	\$0.25	
As adjusted net tangible book value per share after giving effect to this offering		\$0.73
Dilution in net tangible book value per share to investors participating in this offering		\$0.29

The table above assumes for illustrative purposes that an aggregate of \$75.0 million in shares of common stock are sold at a price of \$1.02 per share, the last reported sale price of our common stock on the Nasdaq Capital Market on November 2, 2022. 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 of \$1.02 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$75.0 million is sold at that price, would increase our as adjusted net tangible book value per share after the offering to \$0.97 per share and would increase the dilution in net tangible book value per share to investors participating in this offering to \$1.05 per share, after deducting underwriting discounts and 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 of \$1.02 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$75.0 million is sold at that price, would decrease our as adjusted net tangible book value per share after the offering to \$0.03 per share and would decrease the dilution in net tangible book value per share to investors participating in this offering in this offering to \$0.01 per share, after deducting underwriting discounts and commissions and estimated aggregate offering expenses payable by us.

The information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing.

The table and discussion above does not include the following. All amounts below are as of September 30, 2022:

- 85,000 shares of common stock issuable upon the conversion of shares of Series A Convertible Preferred Stock;
- 4,026,000 shares of common stock issuable upon the conversion of shares of Series B Convertible Preferred Stock;

Table of Contents

- 3,506,000 shares of common stock issuable upon the conversion of shares of Series C Convertible Preferred Stock;
- 3,000,000 shares of common stock issuable upon the conversion of shares of Series D Convertible Preferred Stock;
- 5,000,000 shares of common stock issuable upon the conversion of shares of Series E Convertible Preferred Stock;
- 9,014,960 shares of common stock issuable upon the exercise of warrants issued on November 6, 2019, at an exercise price of \$7.10 per share;
- 2,531,403 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2014 employee, director, and consultant equity incentive plan, or the 2014 Plan, at a weighted average exercise price of \$1.91 per share;
- 2,460,585 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2016 employee, director, and consultant equity incentive plan, or the 2016 Plan, at a weighted average exercise price of \$5.36 per share;
- 1,572,071 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2018 employee, director, and consultant equity incentive plan, or the 2018 Plan, at a weighted average exercise price of \$3.19 per share;
- 1,657,196 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2019 employee, director, and consultant equity incentive plan, or the 2019 Plan, at a weighted average exercise price of \$3.23 per share;
- 5,568,642 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2020 employee, director, and consultant equity incentive plan, or the 2020 Plan, at a weighted average exercise price of \$2.88 per share;
- 3,997,982 shares of common stock reserved for future issuance under the 2020 Plan and 184,471 shares available for sale under the 2018 Employee Stock Purchase Plan, or 2018 ESPP; and
- 390,000 shares of common stock issuable upon the exercise of outstanding stock options issued to a certain employee as inducement awards upon their entering into employment with the company, at an exercise price of \$4.38 per share.

Unless otherwise indicated, all information in this prospectus supplement assumes no conversion of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock, Series D Convertible Preferred Stock, or Series E Convertible Preferred Stock, no exercise of the outstanding warrants and options described above, and no issuance of shares of common stock pursuant to the 2018 ESPP.

PLAN OF DISTRIBUTION

On August 9, 2019, we entered into the Sales Agreement with Jefferies, under which we may offer and sell our shares of common stock from time to time through Jefferies acting as agent. On November 4, 2022, we entered into an amendment to the Sales Agreement. In accordance with the Amended Sales Agreement and pursuant to this prospectus supplement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$75.0 million from time to time, exclusive of any shares sold pursuant to the Sales Agreement under the Prior ATM Sales Prospectus. The sales, if any, of the shares of our common stock made under the Amended Sales Agreement may be made by any method that is deemed to be "at the market offerings" as defined in Rule 415(a)(4) under the Securities Act.

Each time we wish to issue and sell shares of common stock under the Amended 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 Amended 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 supplement 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 equal 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 reasonable and documented fees and disbursements of its counsel, payable in connection with the filing of this prospectus supplement 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 Amended Sales Agreement, will be approximately \$0.1 million. 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 Capital Market on the day following each day on which shares of common stock are sold under the Amended 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 Amended Sales Agreement will terminate upon the earlier of (i) the sale of all shares of common stock subject to the Amended Sales Agreement and (ii) the termination of the Amended Sales Agreement as permitted therein. We and Jefferies may each terminate the Amended Sales Agreement at any time upon ten days' prior notice.

This summary of the material provisions of the Amended Sales Agreement does not purport to be a complete statement of its terms and conditions. A copy of the Amended Sales Agreement is filed as an exhibit to Form 8-K filed with the Commission on November 4, 2022 and incorporated by reference in the registration statement.

Jefferies and its affiliates have previously and 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 have and may in the future receive customary fees. In the course of its business, Jefferies may actively trade our securities for

Table of Contents

its own account or for the accounts of customers, and, accordingly, Jefferies may at any time hold long or short positions in such securities.

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

LEGAL MATTERS

Certain legal matters will be passed upon for us by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts, and with respect to the validity of the shares of common stock by Brownstein Hyatt Farber Schreck, LLP, Las Vegas, Nevada. Jefferies LLC is being represented in this offering by Cooley LLP, New York, New York.

EXPERTS

The consolidated financial statements of Pieris Pharmaceuticals, Inc. appearing in Pieris Pharmaceuticals, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2021, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus supplement, which 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 deemed to be part of this prospectus supplement, and subsequent information that we file later with the SEC will automatically update and supersede this information. We filed a registration statement on Form S-3 under the Securities Act with the SEC with respect to the securities we may offer pursuant to this prospectus supplement. This prospectus supplement omits certain information contained in the registration statement, as permitted by the SEC. You should refer to the registration statement, including the exhibits, for further information about us and the securities we may offer pursuant to this prospectus supplement. Statements in this prospectus supplement regarding the provisions of certain documents filed with, or incorporated by reference in, the registration statement are not necessarily complete and each statement is qualified in all respects by that reference. Copies of all or any part of the registration statement, including the documents incorporated by reference or the exhibits, may be obtained from the SEC's website at http://www.sec.gov. The documents we are incorporating by reference are:

- our Annual Report on Form 10-K for the year ended December 31, 2021 that we filed with the SEC on <u>March 2, 2022</u>, and which was amended on <u>July 6, 2022</u>;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022 that we filed with the SEC on May 11, 2022;
- our Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 that we filed with the SEC on August 4, 2022;
- our Quarterly Report on Form 10-Q for the quarter ended September 30, 2022 that we filed with the SEC on November 4, 2022;
- the portions of our <u>Definitive Proxy Statement</u> on Schedule 14A filed with the SEC on April 29, 2022 that are deemed "filed" with the SEC under the Exchange Act;
- our Current Reports on Form 8-K filed on <u>January 3, 2022</u>, <u>June 27, 2022</u>, <u>August 4, 2022</u> and <u>November 4, 2022</u>, respectively (in each case, except for information contained therein which is furnished rather than filed);
- the description of our common stock contained in our Registration Statement on <u>Form 8-A</u> filed on June 24, 2015, including any amendment or report filed for the purpose of updating such description; and
- all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus supplement and prior to the termination or completion of the offering of securities under this prospectus supplement shall be deemed to be incorporated by reference in this prospectus supplement and to be a part hereof from the date of filing such reports and other documents.

The SEC file number for each of the documents listed above is 001-37471.

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

You may request, orally or in writing, a copy of any or all of the documents incorporated herein by reference. These documents will be provided to you at no cost, by contacting:

Pieris Pharmaceuticals, Inc. c/o 255 State Street, 9th Floor Boston, MA 02109, USA Attn: Investor Relations Telephone: +1 (857) 246-8998

You may also access these documents on our website, *http://www.pieris.com*. The information contained on, or that can be accessed through, our website is not a part of this prospectus supplement. We have included our website address in this prospectus supplement solely as an inactive textual reference.

You should rely only on information contained in, or incorporated by reference into, this prospectus supplement. We have not authorized anyone to provide you with information different from that contained in this prospectus supplement or incorporated by reference in this prospectus supplement. We are not making offers to sell the securities in any jurisdiction in which such an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

Table of Contents

PROSPECTUS

Pieris Pharmaceuticals, Inc.

\$250,000,000

COMMON STOCK PREFERRED STOCK DEBT SECURITIES WARRANTS RIGHTS UNITS

This prospectus will allow us to issue, from time to time at prices and on terms to be determined at or prior to the time of the offering, up to \$250,000,000 of any combination of the securities described in this prospectus, either individually or in units. We may also offer common stock or preferred stock upon conversion of or exchange for the debt securities; common stock upon conversion of or exchange for preferred stock; or common stock, preferred stock or debt securities upon the exercise of warrants or rights; or any combination of these securities.

This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide you with the specific terms of any offering in one or more supplements to this prospectus. The prospectus supplements will also describe the specific manner in which these securities will be offered and may also supplement, update or amend information contained in this document. You should read this prospectus and any prospectus supplement, as well as any documents incorporated by reference into this prospectus or any prospectus supplement, carefully before you invest.

Our securities may be sold directly by us to you, through agents designated from time to time or to or through underwriters or dealers. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus and in the applicable prospectus supplement. If any underwriters or agents are involved in the sale of our securities with respect to which this prospectus is being delivered, the names of such underwriters or agents and any applicable fees, commissions or discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock is listed on the Nasdaq Capital Market under the symbol "PIRS." On August 4, 2021, the last reported sale price of our common stock was \$3.65 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, on the Nasdaq Capital Market or any securities market or other securities exchange of the securities covered by the prospectus supplement. Prospective purchasers of our securities are urged to obtain current information as to the market prices of our securities, where applicable.

Investing in our securities involves a high degree of risk. See "<u>Risk Factors</u>" included in any accompanying prospectus supplement and in the documents incorporated by reference in this prospectus for a discussion of the factors you should carefully consider before deciding to purchase these securities.

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

The date of this prospectus is August 13, 2021.

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TABLE OF CONTENTS

	PAGE
ABOUT THIS PROSPECTUS	1
PROSPECTUS SUMMARY	2
RISK FACTORS	9
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS	10
<u>USE OF PROCEEDS</u>	12
PLAN OF DISTRIBUTION	13
DESCRIPTION OF COMMON STOCK	15
DESCRIPTION OF PREFERRED STOCK	17
DESCRIPTION OF DEBT SECURITIES	19
DESCRIPTION OF WARRANTS	25
DESCRIPTION OF RIGHTS	27
DESCRIPTION OF UNITS	29
CERTAIN PROVISIONS OF NEVADA LAW AND OF THE COMPANY'S ARTICLES OF INCORPORATION AND BYLAWS	31
LEGAL MATTERS	36
<u>EXPERTS</u>	37
WHERE YOU CAN FIND MORE INFORMATION	38
INCORPORATION OF DOCUMENTS BY REFERENCE	39

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, utilizing a "shelf" registration process. Under this shelf registration process, we may offer shares of our common stock and preferred stock, various series of debt securities and/or warrants or rights to purchase any such securities, either individually or in units, in one or more offerings, with a total value of up to \$250,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will contain specific information about the terms of that offering.

This prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits. The prospectus supplement may also add, update or change information contained or incorporated by reference in this prospectus. However, no prospectus supplement will offer a security that is not registered and described in this prospectus at the time of its effectiveness. This prospectus, together with the applicable prospectus supplements and the documents incorporated by reference into this prospectus, includes all material information relating to the offering of securities under this prospectus. You should carefully read this prospectus, the applicable prospectus supplement, the information and documents incorporated herein by reference and the additional information under the heading "Where You Can Find More Information" before making an investment decision.

You should rely only on the information we have provided or incorporated by reference in this prospectus or any prospectus supplement. We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained or incorporated by reference in this prospectus. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus or any prospectus supplement is accurate only as of the date on the front of the document and that any information we have incorporated herein by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of a security.

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 in this prospectus 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.

This prospectus may not be used to consummate sales of our securities, unless it is accompanied by a prospectus supplement. To the extent there are inconsistencies between any prospectus supplement, this prospectus and any documents incorporated by reference, the document with the most recent date will control.

Unless the context otherwise requires, "Pieris," "PIRS," "the Company," "we," "us," "our" and similar terms refer to Pieris Pharmaceuticals, Inc. and our subsidiaries.

PROSPECTUS SUMMARY

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

About Pieris Pharmaceuticals, Inc.

We are a clinical-stage biotechnology company that discovers and develops Anticalin-based drugs to target validated disease pathways in unique and transformative ways. Our clinical pipeline includes an inhaled IL-4Ra antagonist Anticalin protein to treat uncontrolled asthma and an immuno-oncology, or IO, bispecific targeting HER2 and 4-1BB. Proprietary to us, Anticalin proteins are a novel class of therapeutics validated in the clinic and through partnerships with leading pharmaceutical companies.

Anticalin proteins are a class of low molecular-weight therapeutic proteins derived from lipocalins, which are naturally occurring proteins typically found in human blood plasma and other bodily fluids. Anticalin proteins function similarly to monoclonal antibodies by binding tightly and specifically to a diverse range of targets. An antibody is a large protein used by the immune system to recognize a target molecule, called an antigen. We believe Anticalin proteins possess numerous advantages over antibodies in certain applications. For example, Anticalin proteins are relatively small in size and comprised of a single polypeptide chain whereas antibodies are much bigger and comprised of four polypeptide chains. The potentially greater stability and smaller size of Anticalin proteins as compared to antibodies potentially enable unique routes of Anticalin protein drug administration such as inhaled delivery. Higher-molecular-weight entities, such as antibodies, are often too large to be delivered effectively through these methods. Our Anticalin technology is modular, which allows us to design multimeric Anticalin-based bi- and multi-specific proteins to bind with specificity to two or more targets at the same time. This multispecificity offers advantages in biological settings where binding to multiple targets can enhance the ability of a drug to achieve its desired effects, such as facilitating the killing of cancer cells. Moreover, unlike antibodies, the pharmacokinetic, or PK, profile of Anticalin proteins can be adjusted to potentially enable program-specific optimal drug exposure. Such differentiating characteristics suggest that Anticalin proteins have the potential, in certain cases, to become best-in-class drugs.

We have intellectual property rights directed to various aspects of our Anticalin technology platform, allowing for further development and advancement of both our platform and drug candidates. We believe that our ownership or exclusive license of intellectual property related to the Anticalin platform provides us with a strong intellectual property position, particularly in cases where we are seeking to address targets and diseases in a novel way and for which there is existing antibody intellectual property. We also believe that the drug-like properties of the Anticalin drug class have been demonstrated in various clinical trials with different Anticalin-based drug candidates, including PRS-060/AZD1402, cinrebafusp alfa and others.

Our core Anticalin technology and platform were developed in Germany, and we have collaborations with major multi-national pharmaceutical companies.

In connection with our efforts to develop multispecific Anticalin-based proteins designed to engage immunomodulatory targets, we have gained non-exclusive access to antibody building blocks that can be utilized to develop multispecific antibody-Anticalin fusion proteins.

Strategy

Our goal is to become a fully-integrated biotechnology company by discovering and developing Anticalin-based therapeutics to target validated disease pathways in unique and transformative ways and to later commercialize our therapeutic products. We intend to engage with partners for many of our programs in a combination of geographic and indication-based arrangements to maximize our business opportunities. We also intend to retain certain development and commercial rights on selected products as our experience in drug development grows. Key elements of our strategy include:

- Supporting AstraZeneca in the execution of the PRS-060/AZD1402 phase 2 studies. We have reported promising data from
 our phase 1 SAD and MAD studies of PRS-060/AZD1402 and have been working with AstraZeneca for drug supply and other
 preparations for the phase 2a study of PRS-060/AZD1402. In addition to Ukrainian regulatory approval, AstraZeneca has also
 recently received ethics approval and regulatory acknowledgement for the phase 2a study of PRS-060/AZD1402 in Australia.
 Following a COVID-19-related inventory challenge, the first patient has been dosed in Ukraine and screening for the study is
 ongoing in both Ukraine and Australia. We achieved a \$13.0 million milestone in connection with the initiation of patient
 enrollment in the phase 2a study of PRS-060/AZD1402 in the first quarter of 2021.
- Advancing cinrebafusp alfa into a phase 2 study to evaluate the drug candidate in combination with ramucirumab and paclitaxel in high HER2-expressing gastric cancer and in combination with tucatinib in low HER2-expressing gastric cancer. We presented additional detailed data from the phase 1 monotherapy study and atezolizumab combination study of cinrebafusp alfa in an oral presentation session at the ESMO Virtual Congress in September 2020. We reported that cinrebafusp alfa was well tolerated and had a favorable safety profile at all doses and schedules tested, demonstrated anti-tumor activity in a heavily pre-treated patient population across multiple tumor types and showed a potent increase in CD8+ T cell numbers in the tumor microenvironment of responders, indicative of 4-1BB agonism on T cells. In July 2020, we announced that our phase 1 studies of cinrebafusp alfa have been placed on partial clinical hold by the FDA while we conduct an additional in-use stability and compatibility study requested by the FDA. Pieris has completed the studies requested by the Agency and submitted a Complete Response Letter and an amendment of the Ph1 monotherapy protocol to assess the safety and pharmacokinetics of cinrebafusp alfa in combination with the increased concentration of the excipient in December 2020. In January 2021, FDA lifted the partial clinical hold of the phase 1 studies of cinrebafusp alfa. We presented an updated dataset for cinrebafusp alfa in an oral presentation at the AACR Annual Meeting 2021 on April 10, 2021. The presentation included additional clinical benefit and safety data from cohort 13b (18 mg/kg, administered Q2W), as well as biomarker data across all active dose cohorts. Additionally, we plan to advance cinrebafusp alfa into a phase 2 study for the treatment of low-HER2 and high-HER2 expressing gastric cancer in the summer of 2021.
- Advancing PRS-344 to initiation of a phase 1 study. PRS-344 is currently completing CMC activities associated with the scale-up manufacture of the drug product, and we intend to file an IND for the program in 2021. In addition, we and Servier will present preclinical data for PRS-344 as part of a poster session at the AACR Annual Meeting in 2021. The presentation will showcase synergistic data, including in vitro data evaluating potential effects of combining 4-1BB with PD-L1 and the effects of PRS-344 on CD8+ T cells, as well as dose-dependent anti-tumor response in in vivo preclinical models. PRS-344 is expected to enter phase 1 studies this year.
- Continuing to build our platform by entering into new partnerships and license and collaborative arrangements and *advancing our currently partnered programs*. We have entered into partnership and collaborative arrangements with pharmaceutical companies in a diverse range of therapeutic areas and geographies. We have active strategic partnerships with the global pharmaceutical companies Servier, AstraZeneca, Seagen, Boston Pharmaceuticals and Genentech.



Together with our partners, we intend to advance multiple drug candidates through preclinical studies and to select further drug candidates for clinical development in the future. We will also continue to seek to engage with new pharmaceutical partners that can contribute funding, experience and marketing ability for the successful development and commercialization of our current and future drug candidates.

- *Pursuing additional opportunities for our Anticalin technology.* We intend to continue to identify, vet and pursue opportunities to develop novel Anticalin therapeutics for respiratory diseases, oncology and additional diseases.
- *Pursuing other platform development activities.* We continue to make investments in our Anticalin platform, including in display and other technologies used to discover and optimize Anticalin proteins against targets of interest to increase speed, throughput and quality of the selection process. In addition, we continue to make investments in our platform for the characterization and manufacture of Anticalin proteins to develop drug candidates with excellent drug-like properties that can be efficiently produced.

Anticalin Platform Technology

Our platform technology focuses on low molecular-weight Anticalin proteins that can bind tightly and specifically to a diverse range of targets. Anticalin proteins are derived from human proteins called lipocalins, which are naturally occurring low-molecular weight human proteins of approximately 17 to 21 kDa molecular mass typically found in blood plasma and other bodily fluids. The lipocalin class of proteins defines a group of extracellular specific-binding proteins that, collectively, exhibit extremely high structural homology, yet have a low amino acid sequence identity (less than 20%), making them attractive "templates" for amino acid diversification. Lipocalins naturally bind to, store and transport a wide spectrum of molecules. The defining attributes of the human lipocalin class and, by extension, Anticalin proteins, engineered from the lipocalin class of proteins, are a rigidly conserved beta-barrel backbone with four flexible loops, which, together, form a cup-like binding pocket.

We currently develop our Anticalin proteins from either tear lipocalin, found primarily in human tear fluid as well as the lung epithelium, or NGAL, a protein involved in the innate immune system, by making discrete mutations in the genetic code of the ligand binding regions and regions of the proteins that are amenable for amino acid exchanges. These mutations have the potential to lead to highly specific, high-affinity binding proteins for both small and large molecular targets. Mutations are introduced at pre-defined positions, creating exponentially diverse pools of Anticalin proteins, the most potent and well behaved of which are selected and optimized in a customized manner through in vitro selection using techniques such as phage and yeast display, successful techniques in antibody-based drug discovery. The ability to generate highly-diverse and high-quality Anticalin libraries and to select for the best binders among the large pool of Anticalin proteins by display technologies gives us the opportunity to select specific and high affinity Anticalin proteins for a wide variety of targets. The flexibility inherent in the Anticalin proteins' cup-like structure allows us to choose both small-molecule targets that can be bound more inside the 'cup' as well as larger protein targets that can be bound more by the flexible loop region outside of the 'cup'. Our phase 1 studies for PRS-060/AZD1402, our prior phase 1 and 2 studies of PRS-080, our prior phase 1 study of PRS-050, as well as the phase 1 study of a PCSK9-specific Anticalin protein, indicate that these proteins appear to have low immunogenic potential and thereby have the potential to exhibit a favorable safety profile.

To obtain a specific Anticalin protein, we take advantage of the breadth of our proprietary Anticalin libraries, generated through our protein engineering expertise. We have created, and will continue to create, proprietary Anticalin libraries by rationally diversifying the certain lipocalin regions, thereby generating Anticalin libraries suitable for identifying binders to different types of targets. By utilizing bacterial or mammalian expression platforms from the earliest stages of drug discovery through Current Good Manufacturing Practice, or cGMP, manufacturing, we have created a seamless platform that improves the quality, yield and cost-effectiveness of our drug candidates comprising a single Anticalin protein. Some Anticalin-based bi- and

multi- specific drug candidates, such as cinrebafusp alfa and PRS-344, are expressed in standard mammal expression systems. In this way, Anticalin protein manufacturing is not limited to bacterial systems, with the underlying expression system being driven on a program-by-program basis.

Our Drug Candidate Pipeline

PRS-060/AZD1402 Targeting IL-4R α in Asthma

PRS-060/AZD1402 is an Anticalin drug candidate targeting IL-4R α , a cell surface receptor expressed on immune cells in the lung. IL-4R α is specific for the cytokine IL-4 and the closely related cytokine IL-13, both key drivers of the immune system. PRS-060/AZD1402 is derived from human tear lipocalin, has a 20 pM affinity for human IL-4R α and has a favorable stability profile. Following the results reported in the "Clinical data" section below, and presented at the American Thoracic Society International Conference in May 2019 and European Respiratory Society International Congress in October 2019, AstraZeneca made preparations for a global phase 2a study of PRS-060/AZD1402. We anticipate the first patient will be dosed in the second quarter of 2021. We believe that PRS-060/AZD1402 represents a first-in-class inhaled biologic targeting IL-4R α for the treatment of asthma. PRS-060/AZD1402 is being developed in partnership with AstraZeneca.

Proprietary Respiratory Platform

We continue to advance several proprietary discovery-stage respiratory programs. We expect to share data and rationale for advancement of one of our proprietary respiratory programs at a medical meeting in 2021.

AstraZeneca Respiratory Collaboration Beyond PRS-060/AZD1402

As further described below, our license and collaboration agreement with AstraZeneca, or the AstraZeneca Collaboration Agreement, includes four programs beyond PRS-060/AZD1402. We retain co-development and co-commercialization rights to two out of those four programs. We have initiated discovery work on all four of the additional development candidates under the collaboration. The targets and disease areas of those four programs are undisclosed.

Cinrebafusp alfa Targeting 4-1BB (CD-137) in Oncology

Cinrebafusp alfa is a bispecific protein targeting the immune receptor 4-1BB and the tumor target HER2. It is generated by genetic fusion of an Anticalin protein specific for 4-1BB to each heavy chain of a variant of a HER2-targeting antibody. The mode of action of this 4-1BB/HER2 bispecific is to promote 4-1BB clustering by bridging 4-1BB-positive T cells with HER2-positive tumor cells, and to thereby provide a potent co-stimulatory signal to tumor antigen-specific T cells. Cinrebafusp alfa is intended to localize 4-1BB activation in the tumor, and to thereby both increase efficacy and reduce systemic toxicity compared to 4-1BB-targeting antibodies being developed by third parties in clinical trials. We initiated a phase 1 dose-escalation study of cinrebafusp alfa in HER2 positive patients in September 2017 and a phase 1 dose-escalation study of cinrebafusp alfa in combination with atezolizumab in HER2 positive patients in August 2018.

PRS-344

PRS-344 consists of a PD-L1-targeting antibody and 4-1BB-targeting Anticalin proteins genetically fused to each arm of the C-terminal heavy chain of the antibody.

4-1BB is a co-stimulatory receptor belonging to the TNFR super-family. Clustering of 4-1BB on the surface of T cells leads to T cell activation, proliferation and cytokine secretion. The mode of action of PRS-344 is to promote 4-1BB clustering by bridging 4-1BB-positive T cells with PD-L1-positive tumor cells, and to thereby provide a potent co-stimulatory signal to tumor antigen-specific T cells. PRS-344 is intended to localize 4-1BB



activation in the tumor in a PD-L1 dependent manner. PD-L1 is a transmembrane protein belonging to the B7 family and is expressed on a variety of cells including T cells, B cells, epithelial cells and vascular endothelial cells. Most importantly, PD-L1 is found at high levels on tumor cells of several cancer types including but not limited to melanoma, lung, bladder, colon and breast cancer. Binding of PD-L1 to its receptor PD-1 leads to exhaustion of tumor-infiltrating T cells. PRS-344 blocks the PD-1/PD-L1 interaction and thus is capable of reversing T cell exhaustion in the tumor microenvironment. Preclinical data shows that the synergistic effect observed by targeting PD-L1 and 4-1BB simultaneously is stronger with PRS-344 than with the combination of anti-PD-L1 and anti-4-1BB antibodies.

Together with our partner Servier, we are completing CMC activities associated with the scale-up manufacture of the drug-product, while preparing for an IND/CTA submission in 2021. This first-in-human study will consist of evaluating the safety and tolerability profile of PRS-344 and determining its maximum tolerated dose, or MTD, and/or the recommended phase 2 dose, or RP2D, in patients with solid tumors. In addition, the PK profile as well as pharmacodynamic effects of the PRS-344 will be characterized in the study. Any initial signs of anti-tumoral activity will be correlated to safety and PK and further explored in expansion cohorts.

Other IO Programs

Current antibody-based therapies targeting tumor cell destruction or immune activation are hampered by, among other factors, low response rates and the induction of immune-related adverse events. Our IO pipeline beyond cinrebafusp alfa and PRS-344 is designed to target checkpoint proteins or, like cinrebafusp alfa, co-stimulatory proteins. These programs consist of a variety of multifunctional biotherapeutics that can encompass a fusion of antibodies with Anticalin proteins or two or more Anticalin proteins to each other. These combined molecules have the potential to build upon current therapies by modifying or regulating one or more immune functions on a single fusion protein, thereby having the potential to elevate immune responses within a tumor microenvironment. We believe that a tethered Anticalin protein directed at checkpoint or co-stimulatory targets can preferentially activate the immune system at the site of the tumor microenvironment thus providing efficacy with enhanced therapeutic index. We believe that these bispecific constructs represent a "platform within a product" opportunity in IO since it may be possible to apply a single combined Anticalin-antibody molecule in a number of different cancers. This belief is based on the shared underlying biology such as checkpoint and co-stimulatory biology found within tumors arising in different organs.

Servier Collaboration Beyond PRS-344

In February 2020, we and Servier agreed to extend the research term of the three programs in development beyond PRS-344 for one year. This research extension includes reimbursement for Pieris' internal efforts and an extension of the research license. As part of the expiration of the initial research term, the option to expand the collaboration beyond the initial five committed programs also expired. In March 2020, Servier notified us of its decision to discontinue co-development of two earlier preclinical stage programs for strategic reasons based upon an extensive portfolio review. The discontinuation of these two programs decreased the potential milestone payments we could receive in the future. In February 2021, the research term was extended again for another 12 months.

Given the discontinuation of the two preclinical stage programs in March 2020, and as further described below, our Servier Collaboration Agreement includes one additional program beyond PRS-344, PRS-352. We retain co-development and co-commercialization rights to only PRS-344. PRS-352 is a preclinical-stage program within the Servier alliance addressing undisclosed targets in IO. We have successfully completed non-GLP preclinical work in 2020 and PRS-352 is currently under further development at Servier.

Seagen Collaboration

In addition, our collaboration with Seagen to discover and develop Anticalin-based tumor-targeted bispecific therapeutics in IO includes up to three programs. We retain a co-development and co-commercialization option for one of these three programs.

We achieved a key development milestone for one of the programs in the Seagen collaboration in 2020, a bispecific tumor-targeted costimulatory agonist, triggering a \$5 million payment. We have handed the program over to Seagen, which is responsible for further advancement and funding of the asset. The program is one of up to three potential programs in the Seagen alliance, and we believe the achieved milestone further validates our approach and leadership in immuno-oncology bispecifics, complementing the encouraging clinical data seen with cinrebafusp alfa.

In March 2021, Seagen made a \$13.0 million equity investment in Pieris as part of an ongoing collaboration between the companies. Additionally, the companies have entered into a clinical trial and supply agreement to evaluate the safety and efficacy of combining Pieris' cinrebafusp alfa with Seagen's tucatinib, a small-molecule tyrosine kinase HER2 inhibitor, for the treatment of gastric cancer patients expressing lower HER2 levels (IHC2+/ISH- & IHC1+) as part of the upcoming phase 2 study to be conducted by Pieris. The companies have also amended their existing immuno-oncology collaboration whereby Pieris' option to co-develop and co-commercialize the second of three programs in the collaboration has been converted to a co-promotion option in the United States.

Additional Information

For additional information related to our business and operations, please refer to the reports incorporated herein by reference, as described under the caption "Incorporation of Documents by Reference" on page <u>39</u> of this prospectus.

Impact of COVID-19

Beginning in March 2020, we have supported our employees and government efforts to curb the COVID-19 pandemic through a multifaceted communication, infrastructure and behavior modification and enforcement effort, with the main objective to keep our laboratories in operation while protecting our employees' health and safety:

- Establishing clear and regular COVID-19 policies, safety protocols and weekly updates to all employees;
- Increasing physical distancing in workspaces for employees working onsite by scheduling adjustments and adding work from home flexibility;
- Adjusting attendance policies to encourage those who are sick to stay home;
- Increasing cleaning protocols across all locations;
- Providing additional personal protective equipment and cleaning supplies;
- Implementing site-specific protocols to address actual and suspected COVID-19 cases and potential exposure;
- · Prohibiting all domestic and international non-essential travel for all employees; and
- Requiring masks to be worn in all locations.

Additionally, we have provided our employees with a stipend to ensure a safe and efficient workspace at home.

Our Corporate Information

On December 17, 2014, Pieris, Pieris GmbH and the former stockholders of Pieris GmbH entered into an acquisition agreement, or the Acquisition Agreement. Pursuant to the Acquisition Agreement, the stockholders of Pieris GmbH contributed all their equity interests in Pieris GmbH to Pieris in exchange for shares of Pieris common stock, which resulted in Pieris GmbH becoming a wholly-owned subsidiary of Pieris, which we refer to as the Acquisition.

Upon the closing of the Acquisition on December 17, 2014, Pieris ceased to be a "shell company" under applicable rules of the Securities and Exchange Commission, or the SEC.

All brand names or trademarks appearing in this prospectus are the property of their respective holders. Use or display by us of other parties' trademarks, trade dress, or products in this prospectus is not intended to, and does not, imply a relationship with, or endorsements or sponsorship of, us by the trademark or trade dress owners. As used herein, the words "Pieris Pharmaceuticals," "Pieris," "PIRS," the "Company," "we," "us," and "our" refer to Pieris Pharmaceuticals, Inc. and our subsidiaries.

Offerings Under This Prospectus

Under this prospectus, we may offer shares of our common stock and preferred stock, various series of debt securities and/or warrants or rights to purchase any of such securities, either individually or in units, with a total value of up to \$250,000,000, from time to time at prices and on terms to be determined by market conditions at the time of the offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe 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;
- maturity, if applicable;
- rates and times of payment of interest or dividends, if any;
- redemption, conversion or sinking fund terms, if any;
- voting or other rights, if any; and
- conversion or exercise prices, if any.

The prospectus supplement also may add, update or change information contained in this prospectus or in documents we have incorporated by reference into this prospectus. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We may sell the securities directly to investors or to or through agents, underwriters or dealers. We, and our agents or underwriters, reserve the right to accept or reject all or part of any proposed purchase of securities. If we offer securities through agents or underwriters, we will include in the applicable prospectus supplement:

- the names of those agents or underwriters;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

This prospectus may not be used to consummate a sale of any securities unless it is accompanied by a prospectus supplement.

RISK FACTORS

An investment in our securities involves a high degree of risk. Before making an investment decision you should carefully read and consider the risks and uncertainties and all of the other information, documents or reports included or incorporated by reference in this prospectus, including, without limitation, the risk factors in the section entitled "Risk Factors" in our most recent Annual Report on Form 10-K, which is on file with the SEC, as updated by our subsequent filings with the SEC under the Exchange Act. If any of the risks set forth in our most recent Annual Report on Form 10-K or subsequent Exchange Act reports actually occur, our business, financial condition, and/or results of operations could suffer. In that case, the market price of our securities offered by this prospectus could decline, and you may lose all or part of your investment. You should read the section entitled "Special Note Regarding Forward-Looking Statements" below for a discussion of what types of statements are forward-looking statements, as well as the significance of such statements in the context of this prospectus. Additional risks and uncertainties that we do not presently know or that we currently deem immaterial may also have a material adverse effect on our business.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference herein include "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements, other than statements of historical facts, included 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. The words "anticipate," "believe," "contemplate," "estimate," "expect," "forecast," "intend," "may," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements may include, among other things, statements about:

- the accuracy of our estimates regarding expenses, future revenues, uses of cash, capital requirements and the need for additional financing;
- the initiation, cost, timing, progress and results of our development activities, preclinical studies and clinical trials;
- the timing of and our ability to obtain and maintain regulatory approval of our existing product candidates, any product candidates that we may develop, and any related restrictions, and/or limitations;
- our plans to research, develop and commercialize our current and future product candidates and Anticalin platform;
- our collaborators' election to pursue or continue research, development and commercialization activities;
- our ability to obtain future reimbursement and/or milestone payments from our collaborators;
- our ability to attract collaborators with development, regulatory and commercialization expertise;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- our ability to successfully commercialize our product candidates;
- the size and growth of the markets for our product candidates and our ability to serve those markets;
- the rate and degree of market acceptance of any future products;
- the success of competing drugs that are or may become available;
- regulatory developments in the United States and other countries;
- the performance of our third-party suppliers and manufacturers and our ability to obtain alternative sources of raw materials;
- our ability to obtain additional financing;
- our use of the proceeds from our securities offerings;
- any restrictions on our ability to use our net operating loss carryforwards; and
- our ability to attract and retain key personnel.

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, particularly in the "Risk Factors" sections of this prospectus and of our Annual Report on Form 10-K for the year ended December 31, 2020, which is incorporated by reference



Table of Contents

herein, 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.

USE OF PROCEEDS

Unless otherwise indicated in the applicable prospectus supplement, we intend to use any net proceeds from the sale of securities under this prospectus for general corporate purposes, including, but not limited to, clinical trials, research and development activities, working capital, capital expenditures, acquisitions, should we choose to pursue any, and collaborations. We have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds, if any, we receive in connection with securities offered pursuant to this prospectus for any purpose. Pending application of the net proceeds as described above, we may initially invest the net proceeds in short-term, investment-grade, or interest-bearing securities.

PLAN OF DISTRIBUTION

We may offer securities under this prospectus from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods. We may sell the securities (1) through underwriters or dealers, (2) through agents or (3) directly to one or more purchasers, or through a combination of such methods. We may distribute the securities from time to time in one or more transactions at:

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

We may directly solicit offers to purchase the securities being offered by this prospectus. We may also designate agents to solicit offers to purchase the securities from time to time and may enter into arrangements for "at-the-market," equity line or similar transactions. We will name in a prospectus supplement any underwriter or agent involved in the offer or sale of the securities.

If we utilize a dealer in the sale of the securities being offered by this prospectus, we will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If we utilize an underwriter in the sale of the securities being offered by this prospectus, we will execute an underwriting agreement with the underwriter at the time of sale, and we will provide the name of any underwriter in the prospectus supplement which the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we, or the purchasers of the securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and the underwriter may compensate those dealers in the form of discounts, concessions or commissions.

With respect to underwritten public offerings, negotiated transactions and block trades, we will provide in the applicable prospectus supplement information regarding any compensation we pay to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof.

If so indicated in the applicable prospectus supplement, we will authorize underwriters, dealers or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in each applicable prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in each applicable prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

• the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and

if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

One or more firms, referred to as "remarketing firms," may also offer or sell the securities, if a prospectus supplement so indicates, in connection with a remarketing arrangement upon their purchase. Remarketing firms will act as principals for their own accounts or as our agents. These remarketing firms will offer or sell the securities in accordance with the terms of the securities. Each prospectus supplement will identify and describe any remarketing firm and the terms of its agreement, if any, with us and will describe the remarketing firm's compensation. Remarketing firms may be deemed to be underwriters in connection with the securities they remarket. Remarketing firms may be entitled under agreements that may be entered into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

Certain underwriters may use this prospectus and any accompanying prospectus supplement for offers and sales related to market-making transactions in the securities. These underwriters may act as principal or agent in these transactions, and the sales will be made at prices related to prevailing market prices at the time of sale. Any underwriters involved in the sale of the securities may qualify as "underwriters" within the meaning of Section 2(a)(11) of the Securities Act. In addition, the underwriters' commissions, discounts or concessions may qualify as underwriters' compensation under the Securities Act and the rules of the Financial Industry Regulatory Authority, Inc., or FINRA.

Shares of our common stock sold pursuant to the registration statement of which this prospectus is a part will be authorized for listing and trading on the Nasdaq Capital Market. The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, on the Nasdaq Capital Market or any securities market or other securities exchange of the securities covered by the prospectus supplement. Underwriters may make a market in our common stock but will not be obligated to do so and may discontinue any market making at any time without notice. We can make no assurance as to the liquidity of or the existence, development or maintenance of trading markets for any of the securities.

In order to facilitate the offering of the securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than we sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing the applicable security in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if the securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

The underwriters, dealers and agents may engage in other transactions with us, or perform other services for us, in the ordinary course of their business.

DESCRIPTION OF COMMON STOCK

We are authorized to issue 300,000,000 shares of common stock, par value \$0.001 per share. On August 5, 2021, we had 66,710,712 shares of common stock outstanding and approximately 45 common stockholders of record.

The following summary of certain provisions of our common stock does not purport to be complete. This description is summarized from, and is qualified in its entirety by reference to, our amended and restated articles of incorporation and our amended and restated bylaws, to which you should refer and both of which are included as exhibits to the registration statement of which this prospectus is a part. The summary below is also qualified by provisions of applicable law, including Chapters 78 and 92A of the Nevada Revised Statutes, or NRS, as applicable to corporations.

General

The holders of our common stock are entitled to one vote per share on matters on which our stockholders vote. There are no cumulative voting rights. An election of directors by our stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Subject to any preferential dividend rights of any outstanding shares of preferred stock, holders of our common stock are entitled to receive dividends, if declared by our Board of Directors, out of funds that we may legally use to pay dividends. All of the issued and outstanding shares of our common stock are duly authorized, validly issued, fully paid and non-assessable.

If we liquidate or dissolve, holders of our common stock are entitled to share ratably in our assets once our debts and any liquidation preference owed to any then-outstanding preferred stockholders are paid. Our amended and restated articles of incorporation do not provide our common stock with any redemption, conversion or preemptive rights. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of then-outstanding preferred stock.

Registration Rights

Private Placement Registration Rights

On December 17, 2014, we entered into a purchase agreement with multiple investors relating to the issuance and sale of shares of our common stock in a private placement (the "2014 Private Placement"). The 2014 Private Placement held closings on December 17, December 18, and December 23, 2014, through which we sold an aggregate of 6,779,510 shares of our common stock at \$2.00 per share for aggregate proceeds of approximately \$13.6 million.

We also issued warrants to acquire up to 542,360 shares of our common stock at an exercise price of \$2.00 per share to placement agents or their designees (the "Placement Agent Warrants").

In connection with the 2014 Private Placement, we entered into a registration rights agreement and agreed to file a registration statement covering the resale of the shares sold in the 2014 Private Placement, the shares underlying the Placement Agent Warrants, and the 20,000,000 shares of our common stock issued to former stockholders of Pieris GmbH in connection with the share exchange transaction on December 17, 2014. We filed a registration statement on Form S-1 which was declared effective by the SEC on May 11, 2015. We have agreed to keep such registration statement effective until the later of December 17, 2016 and such time as all of the securities to be registered thereunder have been sold under the registration statement or may be sold without restriction pursuant to Rule 144.

On June 2, 2016, we entered into a securities purchase agreement with multiple investors relating to the issuance and sale of units consisting of: (i) one share of our common stock or non-voting Series A convertible preferred stock convertible into one share of common stock, and (ii) a warrant to purchase 0.40 shares of our common stock with an exercise price of \$2.00 per share and (iii) a warrant to purchase 0.20 shares of our

common stock with an exercise price of \$3.00 per share (the "2016 Private Placement"). The 2016 Private Placement closed on June 8, 2016 and we sold 8,188,804 units for gross proceeds of approximately \$16.5 million.

In connection with the 2016 Private Placement, we entered into a registration rights agreement with the investors and agreed to register the resale of the common stock, the common stock underlying the preferred stock, and the warrants. We filed a registration statement on Form S-3, which was declared effective by the SEC on August 3, 2016. We have agreed to use our commercially reasonable efforts to keep such registration statement effective until the earliest to occur of: (i) such time as all of the securities to be registered thereunder have been sold under the registration statement, (ii) such time as all of the securities to be registered thereunder to Rule 144, or (iii) June 8, 2018.

In November 2019, we entered into a securities purchase agreement for a private placement with a select group of institutional investors, consisting of (i) one share of our common stock or 0.001 shares of non-voting Series C convertible preferred stock, and (ii) one immediately-exercisable warrant to purchase one share of our common stock with an exercise price of \$7.10 (the "2019 Private Placement"). The 2019 Private Placement closed on November 6, 2019 and we sold 9,014,960 units for gross proceeds of approximately \$32.0 million.

In connection with the 2019 Private Placement, we entered into a registration rights agreement with the investors and agreed to register the resale of the common stock, the common stock underlying the preferred stock, and the warrants. We filed a registration statement on Form S-3 which was declared effective by the SEC on December 12, 2019. We have agreed to use our commercially reasonable efforts to keep such registration statement effective until the earliest to occur of: (i) such time as all of the securities to be registered thereunder have been sold under the registration statement, (ii) such time as all of the securities to be registered thereunder to Rule 144, or (iii) November 6, 2021.

In March 2021, we entered into a subscription agreement with Seagen, pursuant to which we issued 3,706,174 shares of our common stock for gross proceeds of approximately \$13.0 million in a private placement transaction. Beginning on May 23, 2021, 60 days after the closing of this private placement, Seagen has the right to request the resale of common stock issued pursuant to this agreement. Upon receipt of this request, we have agreed to use our commercially reasonable efforts to effect the registration of these shares of common stock no later than 60 days following the receipt of such request if we are not then eligible to register for the resale of these shares of common stock on Form S-3.

In March 2021, we also entered into a subscription agreement with AstraZeneca, pursuant to which we issued 3,584,230 shares of our common stock for gross proceeds of approximately \$10.0 million in a private placement transaction. Pursuant to this subscription agreement, we have agreed to register the resale of the common stock issued to AstraZeneca. We filed a registration statement on Form S-3, which was declared effective by the SEC on May 28, 2021. We have agreed to use our commercially reasonable efforts to keep such registration statement effective until the date on which all of the shares of common stock issued under this subscription agreement that are included in such registration statement have been sold.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. Its address is P.O. Box 505000, Louisville, KY, 40233-5000. Their telephone number is (877) 373-6374 from the United States, Canada and Puerto Rico and (781) 575-3100 from all other locations.

Stock Exchange Listing

Our common stock is listed for quotation on the Nasdaq Capital Market, under the symbol "PIRS."

DESCRIPTION OF PREFERRED STOCK

We are authorized to issue 10,000,000 shares of preferred stock, par value \$0.001 per share, of which, as of August 5, 2021:

- 4,963 shares have been designated as Series A Convertible Preferred Stock, 85 shares of which were issued and outstanding;
- 5,000 shares have been designated as Series B Convertible Preferred Stock, 4,026 shares of which were issued and outstanding;
- 3,522 shares have been designated as Series C Convertible Preferred Stock, 3,506 shares of which were issued and outstanding;
- 3,000 shares have been designated as Series D Convertible Preferred Stock, 3,000 shares of which were issued and outstanding; and
- 5,000 shares have been designated as Series E Convertible Preferred Stock, 5,000 shares of which were issued and outstanding.

The following summary of certain provisions of our preferred stock does not purport to be complete. This description is summarized from, and is qualified in its entirety by reference to, our amended and restated articles of incorporation and our amended and restated bylaws, to which you should refer and both of which are included as exhibits to the registration statement of which this prospectus is a part. The summary below is also qualified by provisions of applicable law, including Chapters 78 and 92A of the NRS as applicable to corporations.

General

Our Board of Directors has the authority, without further stockholder authorization, to issue from time to time up to 10,000,000 shares of preferred stock in one or more series and to fix the voting powers, designations, preferences, limitations, restrictions, and relative rights of each series. If we issue preferred stock in the future, such preferred stock may have priority over common stock with respect to dividends and other distributions, including the distribution of assets upon liquidation. Although we have no present plans to issue any shares of preferred stock, the issuance of shares of preferred stock, or the issuance of rights to purchase such shares, could decrease the amount of earnings and assets available for distribution to the holders of common stock, could adversely affect the rights and powers, including voting rights, of the common stock, and could have the effect of delaying, deterring or preventing a change of control of us or an unsolicited acquisition proposal.

If we offer a specific series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate of designation establishing the terms of the preferred stock with the Nevada Secretary of State and the SEC. To the extent required, this description will include:

- the designation and stated value, if any;
- the number of shares offered, the liquidation preference, if any, per share and the purchase price per share;
- the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such 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, if applicable;

Table of Contents

- 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 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 exchange period;
- voting rights, if any, of the preferred stock;
- a discussion of any material and/or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the affairs of the Company; and
- any material limitations on issuance of any class or series of preferred stock ranking pari passu with or senior to the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the Company.

Transfer Agent and Registrar

The transfer agent and registrar for our preferred stock will be set forth in the applicable prospectus supplement.

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. While the terms we have summarized below will apply generally to any future debt securities we may offer pursuant to this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement, the terms of any debt securities offered under such prospectus supplement may differ from the terms we describe below, and to the extent the terms set forth in a prospectus supplement differ from the terms described below, the terms set forth in the prospectus supplement shall control.

The "Debt Securities" will be either senior debt securities, or Senior Debt Securities, or subordinated debt securities, or Subordinated Debt Securities. The Senior Debt Securities and the Subordinated Debt Securities will be issued under separate indentures among us, the subsidiary guarantors of such Debt Securities, if any, each a Subsidiary Guarantor, if applicable, and a trustee to be determined, the Trustee. Senior Debt Securities will be issued under a "Senior Indenture" and Subordinated Debt Securities will be issued under a "Subordinated Indenture" Together, the Senior Indenture and the Subordinated Indenture are called "Indentures." The form of each Indenture has been filed with the SEC as an exhibit to the registration statement of which this prospectus is a part, and you should read the Indentures for provisions that may be important to you.

The Indentures will be qualified under the Trust Indenture Act of 1939, as in effect on the date of the indenture. We use the term "debenture 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 Debt Securities are subject to, and qualified in their entirety by reference to, all the provisions of the indenture applicable to a particular series of debt securities.

General

The Debt Securities may be issued from time to time in one or more series and may be denominated and payable in foreign currencies or units based on or relating to foreign currencies. Neither Indenture limits the amount of Debt Securities that may be issued thereunder, and each Indenture provides that the specific terms of the Debt Securities shall be set forth in, or determined pursuant to, an authorizing resolution and/or a supplemental indenture, if any, relating to such series.

- the title of the Debt Securities;
- the aggregate principal amount and any limit on the aggregate principal amount of the Debt Securities;
- the currency or units based on or relating to currencies in which Debt Securities are denominated and the currency or units in which principal or interest or both will or may be payable;
- whether we will issue the series of Debt Securities in global form, the terms of any global securities and who the depositary will be;
- whether or not the Debt Securities will be secured or unsecured, and the terms of any secured debt;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- whether the Indenture will restrict our ability to pay dividends, or will require us to maintain any asset ratios or reserves;
- whether we will be restricted from incurring any additional indebtedness;
- a discussion on any material or special U.S. federal income tax considerations applicable to Debt Securities;
- the denominations in which we will issue Debt Securities, if other than denominations of \$1,000 and any integral multiple thereof;
- whether the Debt Securities are Senior Debt Securities or Subordinated Debt Securities and, if Subordinated Debt Securities, the related subordination terms;

Table of Contents

- whether any Subsidiary Guarantor will provide a Subsidiary Guarantee of the Debt Securities;
- each date on which the principal of the Debt Securities will be payable;
- the interest rate, which may be fixed or variable, or the method for determining the rate and date interest will begin to accrue, that the Debt Securities will bear and the interest payment dates for the Debt Securities;
- each place where payments on the Debt Securities will be payable;
- any terms upon which the Debt Securities may be redeemed, in whole or in part, at our option;
- any sinking fund or other provisions that would obligate us to redeem or otherwise repurchase the Debt Securities;
- the portion of the principal amount, if less than all, of the Debt Securities that will be payable upon declaration of acceleration of the Maturity of the Debt Securities;
- whether the Debt Securities are defeasible;
- any addition to or change in the events of default;
- whether the Debt Securities are convertible into our common stock and, if so, the terms and conditions upon which conversion will be effected, including the initial conversion price or conversion rate and any adjustments thereto and the conversion period;
- any addition to or change in the covenants in the Indenture applicable to the Debt Securities;
- any other specific terms, preferences, rights or limitations of, or restrictions on, the Debt Securities; and
- any other terms of the Debt Securities not inconsistent with the provisions of the Indenture.

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

Debt Securities, including any Debt Securities that provide for an amount less than the principal amount thereof to be due and payable upon a declaration of acceleration of the maturity thereof, or Original Issue Discount Securities, may be sold at a substantial discount below their principal amount. Special United States federal income tax considerations applicable to Original Issue Discount Securities may be described in the applicable prospectus supplement. In addition, special United States federal income tax or other considerations applicable to any Debt Securities that are denominated in a currency or currency unit other than United States dollars may be described in the applicable prospectus supplement.

Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms, if any, on which Debt Securities may be convertible into or exchangeable for our common stock or our other securities. 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 or our other securities that the holders of the series of Debt Securities receive would be subject to adjustment.

Consolidation, Merger or Sale; No Protection in Event of a Change of Control or Highly Leveraged Transaction

The Indentures do 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, satisfactory in form to the debenture trustee.

Unless we state otherwise in the applicable prospectus supplement, the Debt Securities will not contain any provisions that may afford holders of the Debt Securities protection in the event we have a change of control or in the event of a highly leveraged transaction (whether or not such transaction results in a change of control), which could adversely affect holders of Debt Securities.

Events of Default Under the Indenture

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 our failure continues for 90 days and the time for payment has not been extended or deferred;
- if we fail to pay the principal, or premium, if any, when due and the time for payment has not been extended or delayed;
- if we fail to observe or perform any other covenant set forth in the Debt Securities of such series or the applicable Indentures, other than a covenant specifically relating to and for the benefit of holders of another series of Debt Securities, and our failure continues for 90 days after we receive written notice from the debenture trustee or holders of not less than a majority in aggregate principal amount of the outstanding Debt Securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur as to us.

No event of default with respect to a particular series of Debt Securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an event of default with respect to any other series of Debt Securities. The occurrence of an event of default may constitute an event of default under any bank credit agreements we may have in existence from time to time. In addition, the occurrence of certain events of default or acceleration under any applicable Indenture may constitute an event of default under certain of our other indebtedness outstanding from time to time.

If an event of default with respect to Debt Securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than a majority in principal amount of the outstanding Debt Securities of that series may, by a notice in writing to us (and to the debenture trustee if given by the holders), declare to be due and payable immediately the principal (or, if the Debt Securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) of and premium and accrued and unpaid interest, if any, on all Debt Securities of that series. Before a judgment or decree for payment of the money due has been obtained with respect to Debt Securities of any series, the holders of a majority in principal amount of the outstanding Debt Securities of that series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the Debt Securities) default, other than the non-payment of accelerated principal, premium, if any, and interest, if any, with respect to Debt Securities of that series, have been cured or waived as provided in the applicable Indenture (including payments or deposits in respect of principal, premium or interest that had become due other than as a result of such acceleration). We refer you to the prospectus supplement relating to any series of Debt Securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an event of default.

Subject to the terms of the Indentures, if an event of default under an Indenture shall occur and be continuing, the debenture 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 debenture trustee reasonable indemnity. 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 debenture trustee, or exercising any trust or power conferred on the debenture 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 debenture 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 only 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 previously has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least a majority 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 debenture trustee to institute the proceeding as trustee; and
- the debenture 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 (or at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the Debt Securities of such series represented at such meeting) other conflicting directions within 60 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. We will periodically file statements with the applicable debenture trustee regarding our compliance with specified covenants in the applicable Indenture.

Modification of Indenture; Waiver

The debenture trustee and we may change the applicable Indenture without the consent of any holders with respect to specific matters, including:

- to fix any ambiguity, defect or inconsistency in the Indenture; and
- to change anything that does not materially adversely affect the interests of any holder of Debt Securities of any series issued pursuant to such Indenture.

In addition, under the Indentures, the rights of holders of a series of Debt Securities may be changed by us and the debenture 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 (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the Debt Securities of such series represented at such meeting) that is affected. However, the debenture trustee and we may make the following changes only with the consent of each holder of any outstanding Debt Securities affected:

- extending the fixed maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or any premium payable upon the redemption of any debt securities;
- reducing the principal amount of discount securities payable upon acceleration of maturity;
- making the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment or waiver.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding Debt Securities of any series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the Debt Securities of such series represented at such meeting) may on behalf of the holders of all Debt Securities of that series waive our compliance with provisions of the Indenture. The holders of a majority in principal amount of the outstanding Debt Securities of any series may on behalf of the holders of all the Debt Securities of such series waive any past default under the Indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series affected; provided, however, that the holders of a majority in principal amount of the outstanding Debt Securities of a majority in principal amount of the outstanding Debt Securities of a majority in principal amount of the series affected; provided, however, that the holders of a majority in principal amount of the outstanding Debt Securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

Discharge

Each Indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for obligations to:

- register the transfer or exchange of Debt Securities of the series;
- replace stolen, lost or mutilated Debt Securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

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

Form, Exchange, and Transfer

We will issue the Debt Securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The Indentures provide that we may issue Debt Securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depositary named by us and identified in a prospectus supplement 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, the holder of the Debt Securities of any series can exchange the Debt Securities for other Debt Securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

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

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate

additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the Debt Securities of each series.

If we elect to redeem the Debt Securities of any series, we will not be required to:

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

Information Concerning the Debenture Trustee

The debenture trustee, other than during the occurrence and continuance of an event of default under the applicable 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 debenture trustee under such Indenture 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 debenture 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.

Payment and Paying Agents

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

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, will we make interest payments by check which we will mail to the holder. Unless we otherwise indicate in a prospectus supplement, we will designate the corporate trust office of the debenture trustee in the City of New York as our sole paying agent for payments with respect to Debt Securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the Debt Securities of a particular series. We will maintain a paying agent in each place of payment for the Debt Securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any Debt Securities which 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 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.

Subordination of Subordinated Debt Securities

Our obligations pursuant to any subordinated Debt Securities will be unsecured and will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The Indentures do not limit the amount of indebtedness we may incur. The Indentures also do not limit us from issuing any other secured or unsecured debt.

DESCRIPTION OF WARRANTS

General

We may issue warrants to purchase shares of our common stock, preferred stock and/or debt securities in one or more series together with other securities or separately, as described in the applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the warrant agreements and the prospectus supplement relating to the warrants.

The applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

- the specific designation and aggregate number of, and the price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the designation, amount and terms of the securities purchasable upon exercise of the warrants;
- if applicable, the exercise price for shares of our common stock and the number of shares of common stock to be received upon exercise of the warrants;
- if applicable, the exercise price for shares of our preferred stock, the number of shares of preferred stock to be received upon exercise, and a description of that series of our preferred stock;
- if applicable, the exercise price for our debt securities, the amount of debt securities to be received upon exercise, and a description of that series of debt securities;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- if applicable, the date from and after which the warrants and the common stock, preferred stock and/or debt securities will be separately transferable;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of the warrants, if any;
- any redemption or call provisions;
- whether the warrants may be sold separately or with other securities as parts of units; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

Outstanding Warrants

As of August 5, 2021, we had outstanding warrants to purchase 9,014,960 shares of our common stock at an exercise price of \$7.10 per share.

Transfer Agent and Registrar

The transfer agent and registrar for any warrants will be set forth in the applicable prospectus supplement.

DESCRIPTION OF RIGHTS

General

We may issue rights to our stockholders to purchase shares of our common stock, shares of our preferred stock or any of the other securities described in this prospectus. We may offer rights separately or together with one or more additional rights, debt securities, preferred stock, common stock or warrants, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. Each series of rights will be issued under a separate rights agreement to be entered into between us and a bank or trust company, as rights agent. The rights agent will act solely as our agent in connection with the certificates relating to the rights of the series of certificates and will not assume any obligation or relationship of agency or trust for or with any holders of rights certificates or beneficial owners of rights. The following description sets forth certain general terms and provisions of the rights to which any prospectus supplement may relate. The particular terms of the rights to which any prospectus supplement may relate and the extent, if any, to which the general provisions may apply to the rights so offered will be described in the applicable prospectus supplement. To the extent that any particular terms of the rights, rights agreement or rights certificates described in a prospectus supplement differ from any of the terms described below, then the terms described below will be deemed to have been superseded by that prospectus supplement. We encourage you to read the applicable rights agreement and rights certificate for additional information before you decide whether to purchase any of our rights.

We will provide in a prospectus supplement the following terms of the rights being issued:

- the date of determining the stockholders entitled to the rights distribution;
- the aggregate number of shares of common stock, preferred stock or other securities purchasable upon exercise of the rights;
- the exercise price;
- the aggregate number of rights issued;
- whether the rights are transferrable and the date, if any, on and after which the rights may be separately transferred;
- the date on which the right to exercise the rights will commence, and the date on which the right to exercise the rights will expire;
- the method by which holders of rights will be entitled to exercise;
- the conditions to the completion of the offering, if any;
- the withdrawal, termination and cancellation rights, if any;
- whether there are any backstop or standby purchaser or purchasers and the terms of their commitment, if any;
- whether stockholders are entitled to oversubscription rights, if any;
- any applicable material U.S. federal income tax considerations; and
- any other terms of the rights, including terms, procedures and limitations relating to the distribution, exchange and exercise of the rights, as applicable.

Each right will entitle the holder of rights to purchase for cash the principal amount of shares of common stock, preferred stock or other securities at the exercise price provided in the applicable prospectus supplement. Rights may be exercised at any time up to the close of business on the expiration date for the rights provided in the applicable prospectus supplement.

Holders may exercise rights as described in the applicable prospectus supplement. Upon receipt of payment and the rights certificate properly completed and duly executed at the corporate trust office of the rights agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the shares of common stock, preferred stock or other securities, as applicable, purchasable upon exercise of the rights. If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

Rights Agent

The rights agent for any rights we offer will be set forth in the applicable prospectus supplement.

DESCRIPTION OF UNITS

The following description, together with the additional information that we include in any applicable prospectus supplements summarizes the material terms and provisions of the units that we may offer under this prospectus. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we may offer under this prospectus, as well as any related free writing prospectuses and the complete unit agreement and any supplemental agreements that contain the terms of the units.

General

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

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

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

The provisions described in this section, as well as those set forth in any prospectus supplement or as described under "Description of Common Stock," "Description of Preferred Stock," "Description of Debt Securities," "Description of Warrants" and "Description of Rights" will apply to each unit, as applicable, and to any common stock, preferred stock, debt security, warrant, or right included in each unit, as applicable.

Unit Agent

The name and address of the unit agent for any units we offer will be set forth in the applicable prospectus supplement.

Issuance in Series

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

Enforceability of Rights by Holders of Units

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

CERTAIN PROVISIONS OF NEVADA LAW AND OF THE COMPANY'S ARTICLES OF INCORPORATION AND BYLAWS

Anti-Takeover Effects of Our Amended and Restated Articles of Incorporation and Amended and Restated Bylaws and Certain Provisions of Nevada Law

Our amended and restated articles of incorporation, amended and restated bylaws and the NRS contain provisions that may have the effect of maintaining continuity and stability in the composition of our Board of Directors. These provisions may help us avoid costly takeover battles, reduce our vulnerability to a hostile change of control and enhance the ability of our Board of Directors to effectively evaluate and negotiate in connection with any unsolicited offer to acquire us. However, these provisions may have an anti-takeover effect and may delay, deter or prevent a merger or acquisition of our company by means of a tender offer, a proxy contest or other takeover attempt that a stockholder might consider to be in its best interest, including attempts that might result in a premium over the prevailing market price for the shares of common stock held by stockholders.

Business Combinations and Acquisition of Control Shares

Nevada's "combinations with interested stockholders" statutes (NRS 78.411 through 78.444, inclusive) prohibit specified types of business "combinations" between certain Nevada corporations and any person deemed to be an "interested stockholder" for two years after such person first becomes an "interested stockholder" unless the corporation's board of directors approves the combination (or the transaction by which such person becomes an "interested stockholder") in advance, or unless the combination is approved by the board of directors and sixty percent of the corporation's voting power not beneficially owned by the interested stockholder, its affiliates and associates. Furthermore, in the absence of prior approval, certain restrictions may apply even after such two-year period. However, these statutes do not apply to any combination of a corporation and an interested stockholder" is any person who is (1) the beneficial owner, directly or indirectly, of ten percent or more of the voting power of the outstanding voting shares of the corporation, or (2) an affiliate or associate of the corporation and at any time within the two previous years was the beneficial owner, directly or indirectly of the corporation. The definition of the term "combination" is sufficiently broad to cover most significant transactions between a corporation may elect in its articles of incorporation not to be governed by these particular laws. We have not made such an election in our amended and restated articles of incorporation.

Nevada's "acquisition of controlling interest" statutes (NRS 78.378 through 78.3793, inclusive) contain provisions governing the acquisition of a controlling interest in certain Nevada corporations. These "control share" laws provide generally that any person that acquires a "controlling interest" in certain Nevada corporations may be denied voting rights, unless a majority of the disinterested stockholders of the corporation elects to restore such voting rights. Our amended and restated articles of incorporation include our election to provide that these statutory provisions shall not apply to us or to any acquisition of our common stock. If our amended and restated articles of incorporation are amended to remove such elective provision, and absent a similar provision included in an amendment to our amended and restated bylaws, these laws would then apply to us as of a particular date if we were to have 200 or more stockholders of record (at least 100 of whom have addresses in Nevada appearing on our stock ledger at all times during the 90 days immediately preceding such date) and do business in the State of Nevada directly or through an affiliated corporation, unless our articles of incorporation or bylaws in effect on the tenth day after the acquisition of a controlling interest provide otherwise. These laws provide that a person acquires a "controlling interest" whenever a person acquires shares of a subject corporation that, but for the application of these provisions of the NRS, would enable that person to exercise (i) one-fifth or more, but less than one-third, (ii) one-third or more, but less than a majority or (iii) a majority or more, of all of the voting power of the corporation in the election of directors. Once an acquirer crosses one of

these thresholds, shares which it acquired in the transaction taking it over the threshold and within the 90 days immediately preceding the date when the acquiring person acquired or offered to acquire a controlling interest become "control shares" to which the voting restrictions described above apply.

In addition, NRS 78.139 also provides that a director may resist a change or potential change in control of the corporation if the board of directors determines that the change or potential change is opposed to or not in the best interest of the corporation upon consideration of any relevant facts, circumstances, contingencies or constituencies pursuant to NRS 78.138(4).

Classified Board of Directors; Removal of Directors Only for Cause

Pursuant to our amended and restated articles of incorporation and amended and restated bylaws, our Board of Directors is divided into three classes, with the term of office of the first class to expire at the first annual meeting of stockholders following the initial classification of directors and until their successors are duly elected and qualified, the term of office of the second class to expire at the second annual meeting of stockholders following the initial classification of directors and until their successors are duly elected and qualified. At each annual meeting of stockholders following the initial classification of directors elected to succeed those directors whose terms expire, other than directors elected by the holders of any series of preferred stock under specified circumstances, will be elected for a three-year term of office. All directors elected to our classified Board of Directors may only be removed for cause and only by the affirmative vote of at least 80% of our outstanding voting stock. These provisions are likely to increase the time required for stockholders to change the composition of the Board of Directors. For example, at least two annual meetings will be necessary for stockholders to effect a change in a majority of the members of the Board of Directors.

Dividends and Other Distributions

Under NRS 78.288, the directors of a Nevada corporation may authorize, and the corporation may make, distributions (including cash dividends) to stockholders, but no such distribution may be made if, after giving it effect:

- the corporation would not be able to pay its debts as they become due in the usual course of business; or
- except as otherwise specifically allowed by such corporation's articles of incorporation, the corporation's total assets would be less than the sum of (x) its total liabilities plus (y) the amount that would be needed, if the corporation were to be dissolved immediately after the time of the distribution, to satisfy the preferential rights upon dissolution of stockholders whose preferential rights are superior to those receiving the distribution.

The NRS prescribes the timing of the determinations above depending on the nature and timing of payment of the distribution. For cash dividends paid within 120 days after the date of authorization, the determinations above must be made as of the date the dividend is authorized. When making their determination that a distribution is not prohibited by NRS 78.288, directors may consider:

- financial statements prepared on the basis of accounting practices that are reasonable in the circumstances;
- a fair valuation, including, but not limited to, unrealized appreciation and depreciation; and/or
- any other method that is reasonable in the circumstances.

Declaration and payment of any dividend will be subject to the discretion of our Board of Directors. The payment of any future dividends will be at the discretion of our Board of Directors; however, the time and amount of such dividends, if any, will be dependent upon our financial condition, operations, compliance with applicable law, cash requirements and availability, debt repayment obligations, capital expenditure needs and restrictions in our debt instruments, contractual restrictions, business prospects, industry trends, the provisions of Nevada law affecting the payment of distributions and any other factors our Board of Directors may consider relevant. Our ability to pay dividends on our common stock may depend in part on our receipt of cash dividends from our operating subsidiaries, which may be restricted from paying us dividends as a result of the laws of their jurisdiction of organization, agreements of our subsidiaries or covenants under any existing and future outstanding indebtedness we or our subsidiaries incur.

Advance Notice Provisions for Stockholder Proposals and Stockholder Nominations of Directors

Our amended and restated bylaws provide that, for nominations to the Board of Directors or for other business to be properly brought by a stockholder before a meeting of stockholders, the stockholder must first have given timely notice of the proposal in writing to our Secretary. For an annual meeting, a stockholder's notice generally must be delivered not less than 90 days nor more than 120 days prior to the first anniversary of the previous year's annual meeting date. For a special meeting, the notice must generally be delivered not earlier than the 90th day prior to the meeting and not later than the later of (i) the 60th day prior to the meeting or (ii) the 10th day following the day on which public announcement of the meeting is first made. Detailed requirements as to the form of the notice and information required in the notice are specified in the amended and restated bylaws. If it is determined that business was not properly brought before a meeting in accordance with our bylaw provisions, such business will not be conducted at the meeting.

Special Meetings of Stockholders

Special meetings of the stockholders may be called only by our Board of Directors pursuant to a resolution adopted by a majority of the total number of directors.

Liability and Indemnification of Directors and Officers

The Nevada Revised Statutes provide a statutory mechanism pursuant to which we are permitted to indemnify our directors and officers against expenses relating to certain actions, suits or proceedings as provided for therein. In order for such indemnification pursuant to the statutory mechanism to be available, the applicable director or officer must not have acted in a manner that constituted a breach of his or her fiduciary duties and involved intentional misconduct, fraud or a knowing violation of law and was material to the action, or must have acted in good faith and reasonably believed that his or her conduct was in, or not opposed to, our best interests. In the event of a criminal action, the applicable director or officer must not have had reasonable cause to believe his or her conduct was unlawful. However, the indemnification pursuant to the statutory mechanism under the NRS and advancement of expenses authorized in or ordered by a court pursuant to the statutes does not exclude any other rights to which a person seeking indemnification or advancement of expenses may be entitled under our amended and restated articles of incorporation or any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, for either an action in the person's official capacity or an action in another capacity while holding office, except that indemnification, unless ordered by a court pursuant to Section 78.7502 of the NRS or for the advancement of expenses made pursuant to Section 78.751(2) of the NRS, may not be made to or on behalf of any director or officer if a final adjudication establishes that the director's or officer's acts or omissions involved intentional misconduct, fraud or a knowing violation of the law and was material to the cause of action.

Under applicable provisions of the Nevada Revised Statutes, our amended and restated articles of incorporation, amended and restated bylaws or any separate agreement may provide for our payment of expenses incurred by any such director or officer in advance of the final disposition of the applicable action, suit or proceeding, upon delivery by such director or officer of an undertaking to repay all amounts so advanced if it is ultimately determined that the director or officer is not entitled to be indemnified by us.

Our amended and restated articles of incorporation provide for indemnification of our directors and officers substantially identical in scope to that permitted under applicable Nevada law. Our amended and restated articles of incorporation also provide that the expenses of our directors and officers incurred in defending any applicable action, suit or proceeding must be paid by us as they are incurred and in advance of the final disposition of the action, suit or proceeding, provided that the required undertaking by the director or officer is delivered to us.

We have also entered into separate indemnification agreements with each of our current directors and executive officers consistent with Nevada law and in the form approved by our Board of Directors and our stockholders, and we contemplate entering into such indemnification agreements with directors and certain executive officers that may be elected or appointed in the future. Those indemnification agreements require that under the circumstances and to the extent provided for therein, we indemnify such persons to the fullest extent permitted by applicable law against certain expenses incurred by any such person as a result of such person being made a party to certain actions, suits and proceedings by reason of the fact that such person is or was a director, officer, employee or agent of our company, any entity that was a predecessor corporation of our company or any of our affiliates. The rights of each person who is a party to such an indemnification agreement are in addition to any other rights such person may have under applicable Nevada law, our amended and restated articles of incorporation, our amended and restated by laws, any other agreement, a vote of our stockholders, a resolution adopted by our Board of Directors or otherwise. The foregoing is only a brief description of the form of indemnification agreement, does not purport to be a complete description of the rights and obligations of the parties thereunder and is qualified in its entirety by reference to the form of indemnification agreement filed as an exhibit to this prospectus and incorporated herein by reference.

We also maintain a customary insurance policy that indemnifies our directors and officers against various liabilities, including liabilities arising under the Securities Act that may be incurred by any director or officer in his or her capacity as such.

At present, there is no pending litigation or proceeding involving any of our directors or officers for which indemnification is sought, nor are we aware of any threatened litigation that is likely to result in claims for indemnification.

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

No Stockholder Action by Written Consent

Any action to be effected by our stockholders must be effected at a duly called annual or special meeting of the stockholders and not by written consent.

Super Majority Stockholder Vote Required for Certain Actions

Our amended and restated articles of incorporation and amended and restated bylaws provide that the Board of Directors is expressly authorized to make, alter, amend, change, add to, rescind or repeal, in whole or in part, our bylaws without a stockholder vote in any manner not inconsistent with Nevada law and our amended and restated articles of incorporation. Our amended and restated articles of incorporation require the affirmative vote

of the holders of at least 80% of our outstanding voting stock to amend or repeal any of the provisions discussed in this section under the heading "Anti-Takeover Effects of Our Amended and Restated Articles of Incorporation and Amended and Restated Bylaws and Certain Provisions of Nevada Law," as well as certain other provisions of our amended and restated articles of incorporation. This 80% stockholder vote would be in addition to any separate class vote that might in the future be required pursuant to the terms of any preferred stock that might then be outstanding. An 80% vote is also required for any amendment to, or repeal of, our amended and restated bylaws by the stockholders and for the removal of any member of or our entire Board of Directors. Our amended and restated bylaws may be amended or repealed by a majority vote of the Board of Directors.

Deemed Notice and Consent

Our amended and restated articles of incorporation provide that any person purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed, to the fullest extent permitted by law, to have notice of and consented to all of the provisions of our amended and restated articles of incorporation, our Amended and restated bylaws and any amendment to our articles of incorporation or bylaws enacted in accordance therewith and applicable law.

LEGAL MATTERS

The validity of the issuance of the shares of our common stock or preferred stock offered hereby will be passed upon for us by Brownstein Hyatt Farber Schreck, LLP, Las Vegas, Nevada. Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts, will pass upon the binding nature of any other securities being offered hereby. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements of Pieris Pharmaceuticals, Inc. appearing in Pieris Pharmaceuticals, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2020, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, and file annual, quarterly and current reports, proxy statements and other information with the SEC. SEC filings are available at the SEC's web site at *http://www.sec.gov*. This prospectus is only part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act of 1933, as amended, and therefore omits certain information contained in the registration statement. We have also filed exhibits and schedules with the registration statement that are excluded from this prospectus, and you should refer to the applicable exhibit or schedule for a complete description of any statement referring to any contract or other document.

We also maintain a website at *www.pieris.com*, through which you can access our SEC filings. The information set forth on our website is not part of this prospectus.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with the SEC, which means that we can disclose important information to you by referring you to other documents filed separately with the SEC. The information incorporated by reference is considered part of this prospectus, and any information that we file with the SEC subsequent to this prospectus and prior to the termination of the offering referred to in this prospectus will automatically be deemed to update and supersede this information. We incorporate by reference into this prospectus the documents listed below (excluding any portions of such documents that have been "furnished" but not "filed" for purposes of the Exchange Act unless specifically incorporated by reference herein or therein):

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, as filed on March 31, 2021;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2021, filed with the SEC on May 17, 2021;
- our Quarterly Report on Form 10-Q for the quarter ended June 30, 2021, filed with the SEC on August 5, 2021;
- the portions of our Definitive Proxy Statement on <u>Schedule 14A</u> filed with the SEC on April 29, 2021 that are deemed "filed" with the SEC under the Exchange Act;
- our Current Reports on Form 8-K, filed with the SEC on <u>March 25, 2021</u>, <u>March 30, 2021</u>, <u>April 26, 2021</u>, <u>May 21, 2021</u>, <u>May 25, 2021</u> and <u>June 29, 2021</u>;
- the description of our common stock contained in our registration statement on <u>Form 8-A12B</u> filed June 24, 2015, including any other amendments or reports filed for the purpose of updating such description (other than any portion of such filings that are furnished under applicable SEC rules rather than filed); and
- all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus and prior to the termination or completion of the offering of securities under this prospectus shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing such reports and other documents.

We also incorporate by reference all documents we subsequently file with the SEC (other than information furnished pursuant to Item 2.02 or Item 7.01 of Form 8-K or as otherwise permitted by SEC rules) pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the initial filing of the registration statement of which this prospectus is a part (including prior to the effectiveness of the registration statement) and prior to the termination of the offering. The file numbers for each of the filings listed above is 001-37471.

This prospectus is part of a registration statement on Form S-3 that we have filed with the SEC relating to our securities. As permitted by SEC rules, this prospectus does not contain all of the information included in the registration statement and the accompanying exhibits and schedules we file with the SEC. We have filed certain legal documents that control the terms of the Common Stock offered by this prospectus as exhibits to the registration statement. We may file certain other legal documents that control the terms of the Common Stock offered by this prospectus as exhibits to reports we file with the SEC. You may refer to the registration statement and the exhibits and schedules for more information about us and our securities. The registration statement and exhibits and schedules are also available through the SEC's website at www.sec.gov.

We will provide, without charge and upon oral or written request, to each person, including any beneficial owner, to whom a copy of this prospectus has been delivered, a copy of any of the documents referred to above as being incorporated by reference into this prospectus but not delivered with it. You may obtain a copy of these filings, at no cost, by writing or calling us at Pieris Pharmaceuticals, Inc., 255 State Street, 9th Floor, Boston, MA 02109, (857) 246-8998. Exhibits to the filings will not be provided, however, unless those exhibits have been specifically incorporated by reference in this prospectus.



Up to \$75,000,000

Common Stock

PROSPECTUS SUPPLEMENT

Jefferies

November 4, 2022