UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 OR 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): March 29, 2023

PIERIS PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Nevada	**001-37471**	**30-0784346**
(State or other jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

225 Franklin Street, 26th Floor Boston, MA	**02110**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: 857-246-8998
N/A
(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, $0.001 par value per share	**PIRS**	**The Nasdaq Capital Market**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (17 CFR §230.405) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR §240.12b-2).

Emerging Growth Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 2.02 Results of Operations and Financial Condition.

On March 29, 2023, Pieris Pharmaceuticals, Inc. (the "Company") issued a press release announcing certain financial results for the quarter ended December 31, 2022. A copy of the press release issued by the Company is furnished as Exhibit 99.1 to this report.

The information set forth under this "Item 2.02. Results of Operations and Financial Condition," including Exhibit 99.1 furnished hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, except as shall be expressly set forth by specific reference in such filing.

Item 7.01 Regulation FD Disclosure.

Furnished hereto as Exhibit 99.2 is the March 2023 Investor Presentation of the Company.

The information set forth under this "Item 7.01. Regulation FD Disclosure," including Exhibit 99.2 furnished hereto, shall not be deemed "filed" for any purpose, and shall not be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, regardless of any general incorporation language in any such filing except as shall be expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) *Exhibits.*

99.1	Press Release, dated March 29, 2023.
99.2	Investor Presentation, dated March 2023.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

PIERIS PHARMACEUTICALS, INC.

Dated: March 29, 2023

/s/ Tom Bures
Tom Bures
Chief Financial Officer

Exhibit 99.1

March 29, 2023

PIERIS PHARMACEUTICALS REPORTS FULL-YEAR 2022 FINANCIAL RESULTS AND BUSINESS UPDATES

COMPANY TO HOST AN INVESTOR CONFERENCE CALL TODAY,
WEDNESDAY, MARCH 29, 2023, AT 8:00 AM EDT

- Continued advancement of pipeline, including two clinical-stage inhaled respiratory programs and additional therapeutic programs for serious diseases
- Elarekibep (PRS-060/AZD1402) Phase 2a study for asthma continues to be enrolled by AstraZeneca; clinical data anticipated by mid-2024
- PRS-220, inhaled Anticalin protein for idiopathic pulmonary fibrosis (IPF), continues in Phase 1 study; topline results expected in the second half of this year
- PRS-400, targeting muco-obstructive respiratory disease, advances toward development candidate nomination; additional preclinical data expected this year

BOSTON, MA, March 29, 2023 – **Pieris Pharmaceuticals, Inc. (Nasdaq: PIRS**), a clinical-stage biotechnology company advancing novel biotherapeutics through its proprietary Anticalin® technology platform for respiratory diseases, cancer, and other indications, reported financial results for the fiscal year ended December 31, 2022, and provided a business update.

“Pieris continues to advance potentially transformative clinical and preclinical programs, while remaining committed to cost-effective operations. Our top priority is to obtain data from the elarekibep Phase 2a study in asthma. We are pleased that our partner and study sponsor, AstraZeneca, is significantly increasing operational resources to complete the trial. As an inhaled therapeutic, elarekibep offers the promise of a superior product profile compared to currently available injectable drugs and further validation of our broader respiratory franchise,” said Stephen S. Yoder, President and CEO of Pieris. “Respiratory diseases such as asthma, IPF and chronic obstructive pulmonary disease are underserved by the biopharma industry despite high mortality rates, impaired quality of life, and a significant burden on the healthcare system. We believe Pieris is well positioned to develop differentiated inhaled biologics medicines that could fundamentally alter how respiratory diseases are managed.”

“Alongside our lead program, elarekibep, Pieris is advancing additional clinical and preclinical programs that could result in meaningful new medicines. We are evaluating opportunities to support the long-term development of these promising therapeutic candidates.”

Respiratory Pipeline:

- **Elarekibep and AstraZeneca Collaboration:** Enrollment is ongoing in the multi-center, placebo-controlled Phase 2a study of dry powder inhaler-formulated elarekibep, an IL-4 receptor alpha (IL-4Rα) inhibitor being developed for the treatment of moderate-to-severe asthma. Topline results measuring placebo-adjusted FEV1 improvement at four weeks are now expected to be reported by the middle of 2024 based on AstraZeneca’s most recent projections. AstraZeneca has communicated to the Company that completion of the Phase 2a study remains an important priority and that additional resources have been provided to achieve study completion, including a commitment to adding several new countries and a significant number of additional clinical sites, bringing the total number to more than 100 sites.

Elarekibep is validated by dupilumab, an FDA-approved inhibitor of IL-4Rα, that has demonstrated reduced levels of fractional exhaled nitric oxide (FeNO) and clinical efficacy in uncontrolled, moderate-to-severe asthma. Furthermore, recently reported dupilumab Phase 3 study results have shown efficacy in chronic obstructive pulmonary disease (COPD). Previously reported elarekibep Phase 1 results demonstrated reduced FeNO levels in mild asthma patients, and a favorable safety profile.

Pieris retains co-development and U.S. co-commercialization rights for elarekibep, exercisable following completion of the ongoing Phase 2a study. Beyond elarekibep, Pieris continues to develop two preclinical programs with AstraZeneca for which it also retains co-development and U.S. co-commercialization options.

- **PRS-220:** Pieris continues the development of an inhaled Anticalin protein targeting connective tissue growth factor (CTGF) for the treatment of IPF and other fibrotic lung diseases. In preclinical models, PRS-220 demonstrated superior on-target potency compared to pamrevlumab, an intravenously infused CTGF antagonist in late-stage clinical development. The Company believes that the inhaled route of administration allows for superior lung exposure. These attributes, combined with the convenience of at-home administration via inhalation, result in PRS-220 having best-in-class potential.

  The Company is currently dosing healthy volunteers in a Phase 1 study of PRS-220 and expects to report results in the second half of this year. Pieris continues to benefit from a meaningful grant from the Bavarian government, which supports early-stage development of this program.

  PRS-400: Pieris continues to advance PRS-400, an inhaled anti-Jagged-1 Anticalin therapeutic program with potential in a wide range of respiratory diseases driven by mucus hypersecretion. PRS-400 is designed to exert clinical activity by disrupting mucus-mediated pathology in the airways, while avoiding inhibition of healthy mucus production outside of the lungs. Previously presented preclinical data demonstrate that PRS-400 potently inhibits Jagged-1-induced Notch 2 signaling in relevant tissue in the lung. In patients with muco-obstructive respiratory diseases, such as those living with inadequately controlled COPD with chronic bronchitis, PRS-400 has potential to improve clinical outcomes and improve quality of life. PRS-400 is advancing toward development candidate nomination later this year.

Immuno-Oncology Pipeline:

Pieris's immuno-oncology pipeline continues to progress in a cost-efficient manner with the benefit of its partners. The Company believes that multiple opportunities exist to generate value from this portfolio based on promising preclinical and clinical data.

- **PRS-344/S095012 and Servier Collaboration:** Pieris and Servier continue to enroll the escalation portion of the Phase 1/2 study of PRS-344/S095012, a 4-1BB/PD-L1 bispecific Mabcalin™ (antibody-Anticalin protein) compound for the treatment of solid tumors, for which Pieris holds full U.S. rights and will receive development milestones and royalties on ex-U.S. sales by Servier. Additionally, Servier discontinued development of PRS-352/S095025, an PD-L1/OX40 bispecific Mabcalin compound, for strategic reasons.

- **Seagen Collaboration:** In January 2023, Seagen initiated a Phase 1 study for SGN-BB228 (also known as PRS-346), triggering a $5 million milestone payment to Pieris. SGN-BB228 is a first-in-class CD228/4-1BB bispecific antibody-Anticalin compound designed to provide a potent costimulatory bridge between tumor-specific T cells and CD228-expressing tumor cells. Pieris and Seagen continue to collaborate on two other undisclosed bispecific programs.

- **PRS-342/BOS-342:** Boston Pharmaceuticals continues to advance PRS-342/BOS-342, a 4-1BB/GPC3 bispecific Mabcalin compound, toward the clinic, with Phase 1 expected to begin in the coming months.

Fiscal Year End Financial Update:

Cash Position – Cash, cash equivalents, and investments totaled $59.2 million for the year ended December 31, 2022, compared to a cash and cash equivalents balance of $117.8 million for the year ended December 31, 2021. The decrease was due to funding operations in 2022. The Company believes operations are sufficiently funded for more than the next 12 months.

R&D Expense – R&D expenses were $53.0 million for the year ended December 31, 2022, compared to $66.7 million for the year ended December 31, 2021. The decrease was due to lower overall program costs for both elarekibep and cinrebafusp alfa, lower manufacturing costs across other later-stage respiratory and immuno-oncology programs, lower license fees and lower consulting costs. These lower costs were partially offset by higher clinical costs for PRS-220 and PRS-344/S095012, higher pre-clinical costs for PRS-400, and an increase in personnel and travel costs.

G&A Expense – G&A expenses were $16.4 million for the year ended December 31, 2022, compared to $16.6 million for the year ended December 31, 2021. The period-over-period decrease was driven primarily by lower personnel, facilities and audit and tax costs, partially offset by higher business development, travel and amortization of deferred costs related to revenue recognition.

Other Income – For the year ended December 31, 2022, $8.2 million of grant income was recorded with respect to PRS-220, compared to $3.7 million for the year ended December 31, 2021. The increase was due to higher overall costs incurred on PRS-220 as the program progressed into a Phase 1 clinical study.

Net Loss – Net loss was $33.3 million or $(0.45) per share for the year ended December 31, 2022, compared to a net loss of $45.7 million or $(0.71) per share for the year ended December 31, 2021.

***Conference Call**:*

Pieris management will host a conference call beginning at 8:00 AM EDT on Wednesday, March 29, 2023, to discuss the full-year financial results and provide a corporate update. Individuals can join the call by dialing 877-407-8920 (Toll Free US & Canada) or +1 412-902-1010 (International) at least five minutes prior to the start of the call. Alternatively, a listen-only audio webcast of the call can be accessed **here.**

For those unable to participate in the conference call or listen to the webcast, a replay will be available on the Investors section of the Company's website www.pieris.com.

***About Pieris Pharmaceuticals**:*

Pieris is a clinical-stage biotechnology company that combines leading protein engineering capabilities and deep understanding into molecular drivers of disease to develop inhaled medicines that drive local biology to produce superior clinical outcomes for patients. Our pipeline is focused on inhalable Anticalin proteins to treat respiratory diseases and locally-activated bispecifics for immuno-oncology. Proprietary to Pieris, Anticalin proteins are a novel class of therapeutics validated in the clinic and by strong partnerships with leading pharmaceutical companies. For more information, visit www.pieris.com.

***Forward-looking Statements**:*

This press release contains forward-looking statements as that term is defined in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Statements in this press release that are not purely historical are forward-looking statements. Such forward-looking statements include, among other things, our expected cash runway; our product candidates clinical and therapeutic potential in their intended indications; the advancement of our proprietary and co-development programs into and through the clinic and the expected timing for reporting data; the receipt of royalty and/or milestone payments provided for in our collaboration agreements; making IND filings or achieving other milestones related to our programs, including elarekibep, PRS-220, PRS-400, PRS-344/S095012, SGN-BB228 and PRS-342/BOS-342; the therapeutic potential of our Anticalin platform; the potential addressable market for our product candidates; our continued progress in the area of co-stim bispecifics and inhaled therapeutics; and the advancement and funding of our developmental programs generally. Actual results could differ from those projected in any forward-looking statement due to numerous factors. Such factors include, among others, the amounts of anticipated funding actually received for our continued development programs and our actual reductions in spending as compared to anticipated cost reductions; our ability to raise the additional funding we will need to continue to pursue our business and product development plans; the inherent uncertainties associated with developing new products or technologies, including in collaboration with other parties, and operating as a development stage company; our ability to develop, complete clinical trials for, obtain approvals for and commercialize any of our product candidates, including our ability to recruit and enroll patients in our studies; competition in the industry in which we operate; delays or disruptions due to COVID-19 or geopolitical issues, including the conflict in Ukraine; and market conditions. These forward-looking statements are made as of the date of this press release, and we assume no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those projected in the forward-looking statements, except as required by law. Investors should consult all of the information set forth herein and should also refer to the risk factor disclosure set forth in the reports and other documents we file with the Securities and Exchange Commission (SEC) available at www.sec.gov, including, without limitation, the Company's most recent Annual Report on Form 10-K, the Company's Quarterly Reports on Form 10-Q, and subsequent filings with the SEC.

Investor Relations Contact:

Pieris Pharmaceuticals, Inc.
Investors@pieris.com

PIERIS PHARMACEUTICALS, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(in thousands)

	December 31, 2022	December 31, 2021
Assets:		
Cash and cash equivalents	$ 38,635	$ 117,764
Short term investments	20,534	—
Accounts receivable	5,810	3,313
Prepaid expenses and other current assets	8,445	6,548
Total current assets	73,424	127,625
Property and equipment, net	16,992	19,122
Operating lease right-of-use assets	3,705	3,909
Other non-current assets	1,369	2,904
Total Assets	$ 95,490	$ 153,560
Liabilities and stockholders' equity:		
Accounts payable	$ 4,154	$ 8,609
Accrued expenses	11,605	16,836
Deferred revenue, current portion	20,824	25,116
Total current liabilities	36,583	50,561
Deferred revenue, net of current portion	18,734	38,403
Operating lease liabilities	12,244	13,841
Total Liabilities	67,561	102,805
Total stockholders' equity	27,929	50,755
Total liabilities and stockholders' equity	$ 95,490	$ 153,560

PIERIS PHARMACEUTICALS, INC

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except per share data)

	Year ended December 31,	
	2022	2021
Revenues	$ 25,902	$ 31,418
Operating expenses		
Research and development	52,982	66,656
General and administrative	16,394	16,593
Total operating expenses	69,376	83,249
Loss from operations	(43,474)	(51,831)
Interest income	721	4
Grant income	8,173	3,685
Other income (expense), net	1,303	2,404
Net loss	$ (33,277)	$ (45,738)
Basic and diluted net loss per share	$ (0.45)	$ (0.71)
Basic and diluted weighted average shares outstanding	74,172	64,547

Exhibit 99.2

PIERIS PHARMACEUTICALS

CORPORATE PRESENTATION
March 2023

Forward-Looking Statements

This presentation contains forward-looking statements as that term is defined in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Statements in this presentation that are not purely historical are forward-looking statements. Such forward-looking statements include, among other things, our expected cash runway, our product candidates' clinical and therapeutic potential in their intended indications; the receipt of royalty and/or milestone payments provided for in our collaboration agreements; references to novel technologies and methods and our business and product development plans, including the Company's cash resources, the advancement of our proprietary and co-development programs into and through the clinic and the expected timing for reporting data, making IND filings or achieving other milestones related to our programs, including elarekibep, PRS-220, PRS-400, PRS-344/S095012, PRS346/SGN-BB228 and PRS-342/BOS-342; our continued progress in the areas of co-stim bispecifics and inhaled therapeutics; the therapeutic potential of our Anticalin platform; the unmet need and potential addressable market for our product candidates, the potential advantages of our product candidates over those of existing therapeutics and/or those of our competitors, and the advancement of and funding for our developmental programs generally. Actual results could differ from those projected in any forward-looking statements due to numerous factors. Such factors include, among others, our ability to raise the additional funding we will need to continue to pursue our business and product development plans; the inherent uncertainties associated with developing new products or technologies and operating as a development stage company, including in collaboration with other parties; our ability to develop, complete clinical trials for, obtain approvals for and commercialize any of our product candidates, including our ability to recruit and enroll patients in our studies; our ability to address the requests of the U.S. Food and Drug Administration; competition in the industry in which we operate; delays or disruptions due to COVID-19 or geo-political issues, including the conflict in Ukraine; and market conditions. These forward-looking statements are made as of the date of this presentation, and we assume no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those projected in the forward-looking statements, except as required by law. Investors should consult all of the information set forth herein and should also refer to the risk factor disclosure set forth in the reports and other documents we file with the Securities and Exchange Commission (SEC) available at www.sec.gov, including without limitation the Company's most recent Annual Report on Form 10-K, the Company's subsequent Quarterly Reports on Form 10-Q and the Company's other filings from time to time with the SEC.

Executive Summary

Proven Discovery Platform	Industry & Clinical Validation	Programs of Focus (Inhaled Respiratory)
• Protein therapeutics that exploit biology validated by mAbs • Anticalin proteins engineered for focused activity at disease locus leading to superior product profile • Increased clinical benefit, reduced side effects, improved convenience	• ~$200M since 2017 in upfronts, milestones and equity investments • Several co-developed and out-licensed programs • Demonstrated clinical activity of the Anticalin drug class	• Elarekibep (IL4Rα): Large market on highly validated target to improve patient QoL in asthma • PRS-220 (CTGF): Best-in-class anti-CTGF with disease-modifying potential in IPF • PRS-400 (Jagged-1): Novel MOA for muco-obstructive disease that cannot be targeted systemically

Value Proposition	
	• Elarekibep (lead asset) fully funded by AZ through Ph2a; co-development opt-in • Grant-supported development of PRS-220 through Ph1 • Significant milestone and royalty potential in broadly partnered residual pipeline

Anticalin® Proteins as Therapeutic Modalities

A Novel Therapeutic Class with Favorable Drug-Like Properties

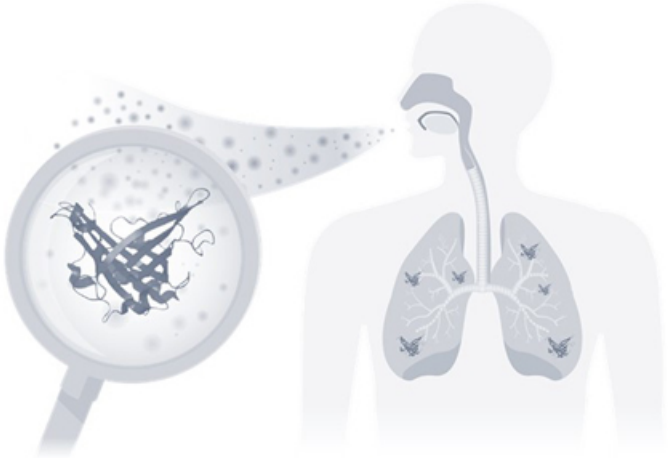
- **Human** – Derived from lipocalins (human extracellular binding proteins)
- **Small** – Monomeric, monovalent, small size (~18 kDa vs. ~150kDa mAbs)
- **Stable** – Inhalable delivery
- **Simple** – Bi/multispecific constructs
- **Proprietary** – Strong IP position on platform and derived products

Translational Science Expertise to Deploy Platform in Meaningful Way

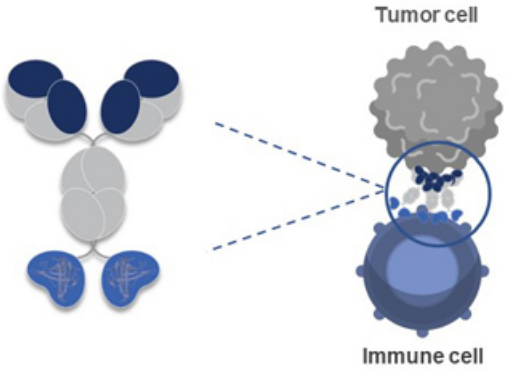
- Immunology expertise underpins IO and respiratory focus
- A leader in 4-1BB and costim biology
- Patient stratification efforts for improved stratification and novel targets in, e.g., asthma

Two-fold Focus of Anticalin Platform Deployment

Inhalable formulations to treat respiratory diseases locally



Bispecifics for local immune agonism to treat cancer

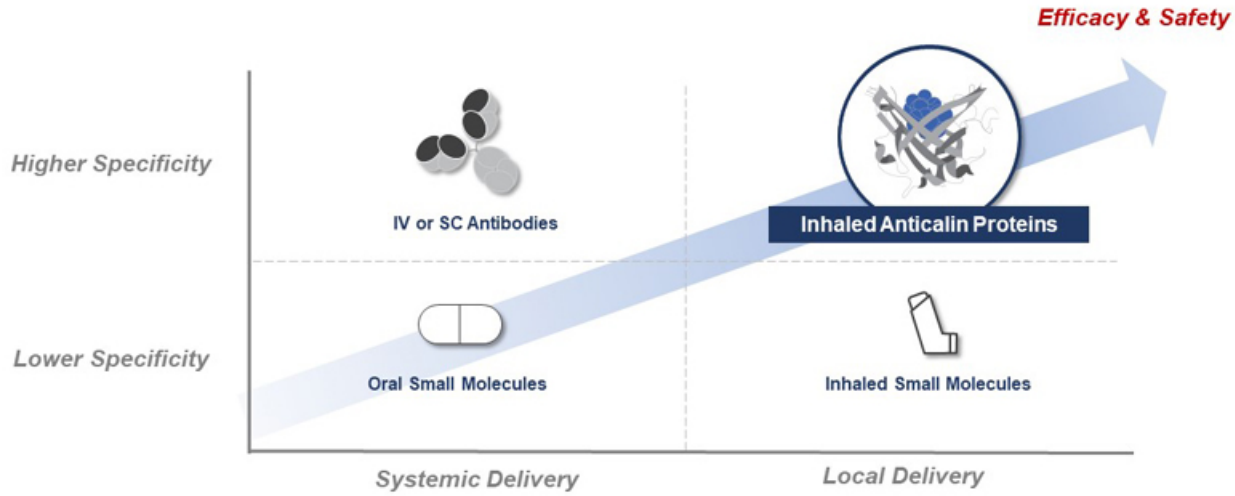


Validating Partnerships & Non-Dilutive Capital

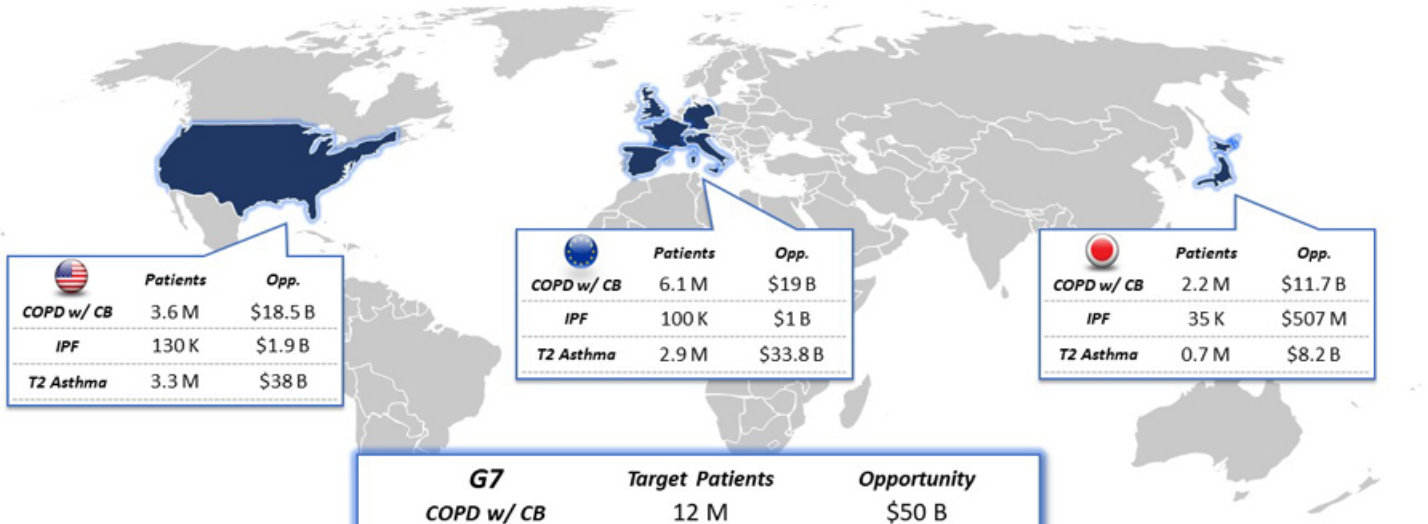
	Active Programs	Cash to Date	Cash Potential*
AstraZeneca	Three (all with co-dev)	$70.5M	>$4.6B plus royalties
Genentech A Member of the Roche Group	Two	$20M	>$1.4B plus royalties
SERVIER moved by you	One co-dev program	~$41M	~$20M plus royalties
Seagen	Three (one with U.S. copromotion option)	$40M	$1.2B plus royalties
BOSTON pharmaceuticals	One	$10M	~$350M

*As of December 31, 2022 and based on applicable exchange rate on that date

Combined Potential Advantages of Higher Specificity with Local Delivery



Pieris' Respiratory Portfolio Targets High Opportunity Indications in Both Primary and Specialty Markets



	Patients	Opp.
COPD w/ CB	3.6 M	$18.5 B
IPF	130 K	$1.9 B
T2 Asthma	3.3 M	$38 B

	Patients	Opp.
COPD w/ CB	6.1 M	$19 B
IPF	100 K	$1 B
T2 Asthma	2.9 M	$33.8 B

	Patients	Opp.
COPD w/ CB	2.2 M	$11.7 B
IPF	35 K	$507 M
T2 Asthma	0.7 M	$8.2 B

G7	Target Patients	Opportunity
COPD w/ CB	12 M	$50 B
IPF	265 K	$3.5 B
T2 Asthma	6.9 M	$80 B

Commercial opportunity represents total patients and average biologic price. No market share assumptions are factored into opportunity calculations

Respiratory Pipeline

Program	Target	Indication	Discovery	Preclinical	Phase 1	Phase 2	Partner
Elarekibep* (PRS-060/AZD1402)	IL4Rα	Asthma	Phase 2a fully sponsored by AZ; co-dev option				AstraZeneca
PRS-220	CTGF	IPF#	>50% grant-funded‡				
PRS-400	Jagged-1	n.d.					
AstraZeneca Programs**	n.d.	n.d.					AstraZeneca
Genentech program	n.d.	n.d.					Genentech A Member of the Roche Group

#IPF - Idiopathic Pulmonary Fibrosis, PF-ILD - Progressive Fibrosing Interstitial Lung Diseases, PASC-PF - Post-Acute sequelae of SARS-CoV-2 infection (PASC) Pulmonary Fibrosis (PF)
‡~$17 million grant from the Bavarian government to evaluate PRS-220 in PASC-PF covers more than half of early-stage and phase 1 development costs of PRS-220
**Pieris has separate co-development and U.S. co-commercialization options on elarekibep*
***Pieris has separate co-development and U.S. co-commercialization options for the two additional programs partnered with AstraZeneca*

Immuno-Oncology Pipeline

BISPECIFICIS FOR LOCAL AGONISM TO TREAT CANCER

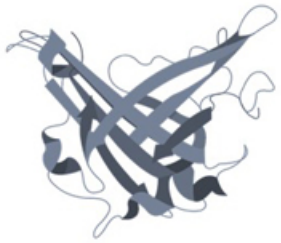
Program	Target	Indication	Discovery	Preclinical	Phase 1	Phase 2	Partner
PRS-344/ S095012	4-1BB/PD-L1	n.d.	~50% co-dev cost share				SERVIER
PRS-346/ SGN-BB228	4-1BB/CD228	n.d.					Seagen
PRS-342/ BOS-342	4-1BB/GPC3	n.d.					BOSTON pharmaceuticals
SGN programs‡	n.d.	n.d.					Seagen

‡ *Two additional active bispecific programs in collaboration with Seagen, with Pieris retaining a U.S. co-promotion option in one of the programs in the collaboration*

Successful track record of partnering 4-1BB assets for value

Elarekibep: Inhaled IL-4Rα Antagonist

Candidate	Elarekibep
Function/MoA	Inhibiting IL4-Rα (disrupts IL-4 & IL-13 signaling)
Indications	Moderate-to-severe asthma
Development	Phase 2a in moderate asthmatics
Commercial Rights	Co-development and U.S. co-commercialization options with gross margin share or royalties



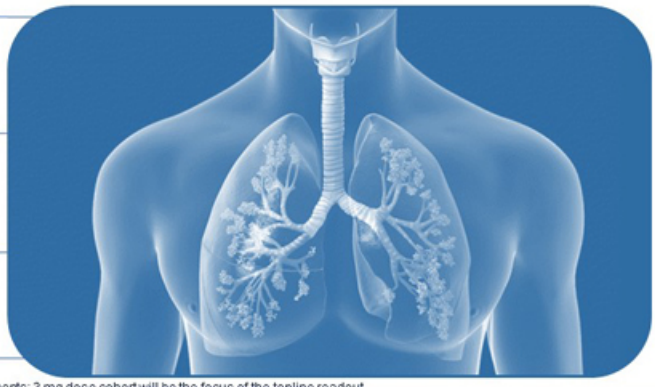
Elarekibep Phase 2a Study

Part 1 (Safety)	**Participant Population:** Moderate asthmatics controlled on ICS/LABA **Primary Endpoint:** Safety and tolerability compared to placebo from baseline until follow-up (approximately 56 days) **Doses:** 1 mg (completed), 3 mg (completed), 10 mg (completed)
Part 2 (Efficacy)	**Participant Population:** Asthmatics uncontrolled on moderate or high dose ICS/LABA with blood EO count of ≥ 150 cells/µL and FeNO ≥ 25 ppb at screening **Primary Endpoint:** Improvement of FEV1 at four weeks relative to placebo **Doses*:** 1 mg (enrolling), 3 mg (enrolling)

Safety initiated Q1 2021; efficacy initiated Q1 2022

Dry powder formulation, administered b.i.d. over four weeks on top of standard-of-care therapy (medium or high dose ICS with LABA)

Study is sponsored, conducted, and funded by AstraZeneca



*1 mg dose cohort will cease enrolling with approval by regulatory authorities of protocol amendments; 3 mg dose cohort will be the focus of the topline readout

DPI Formulation of Elarekibep Passed Safety Review

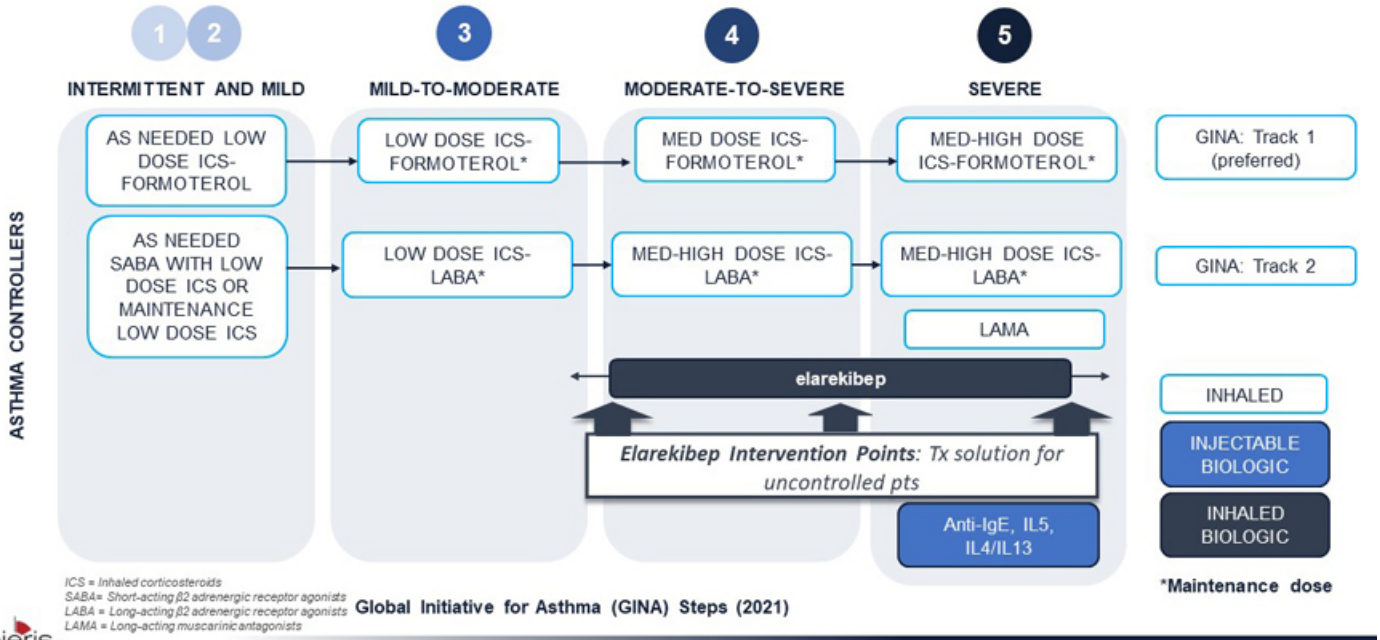
31 moderate asthmatics controlled on standard-of-care therapy (medium dose ICS with LABA) were dosed twice daily over four weeks randomized across two dose levels and placebo (1:1:1)

Safety review successfully completed for two dose levels (1mg and 3mg), triggering efficacy portion of study for those same doses in participants with moderate asthma uncontrolled on medium dose ICS-LABA

Safety review performed of the following (compared to placebo):

- ☑ Incidence of adverse events
- ☑ Changes in laboratory markers (immune biomarkers, clinical chemistry, and hematology)
- ☑ Forced expiratory volume in 1 second (FEV1)
- ☑ Pharmacokinetics

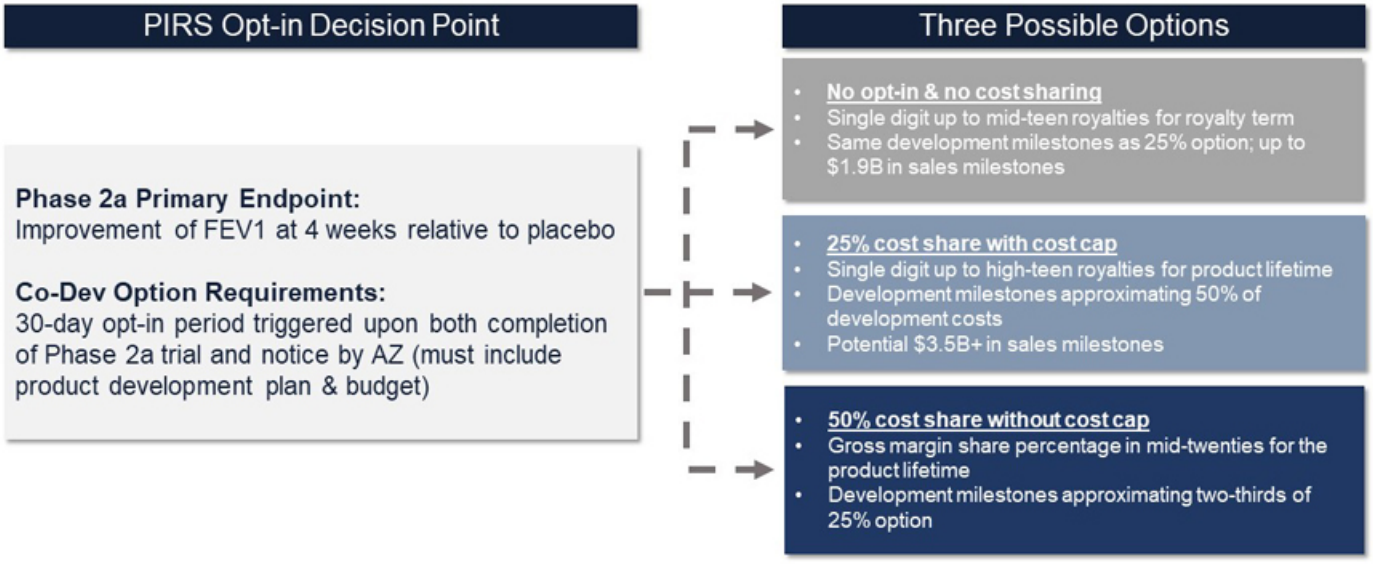
Potential Large Market Opportunity in Moderate-to-Severe Asthma not Addressed by ICS/LABA before Injectable Biologics



ICS = Inhaled corticosteroids
SABA= Short-acting β2 adrenergic receptor agonists
LABA = Long-acting β2 adrenergic receptor agonists
LAMA = Long-acting muscarinic antagonists

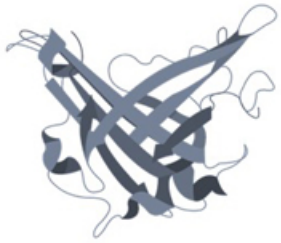
Global Initiative for Asthma (GINA) Steps (2021)

Co-Development Options for Elarekibep



PRS-220: Inhaled CTGF Antagonist

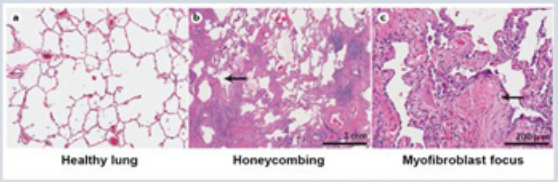
Candidate	PRS-220
Function/MoA	Inhibiting CTGF/CCN2
Indications	IPF* and other forms of fibrotic lung diseases
Development	Phase 1 in healthy volunteers
Commercial Rights	Fully proprietary



*IPF - Idiopathic Pulmonary Fibrosis

IPF: High Unmet Medical Need and Significant Commercial Opportunity

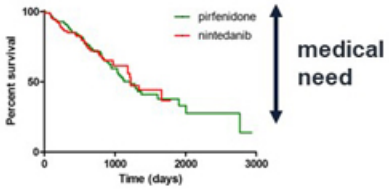
A chronic lung disease:
ultimately fatal lung disease of unknown cause characterized by progressive scarring of the interstitial lung tissue



Martinez, Nature Rev Dis Primer, 2017

3 to 5 years — **median survival from the time of diagnosis**
Hopkins, European Respiratory Journal, 2016

2 — **approved therapies nintedanib & pirfenidone providing modest benefit with significant side effects**



medical need

Adapted from Cameli, Frontiers in Molecular Biosciences, 2020

>$3B — **current market in sales**

Significant need for well-tolerated and effective therapies

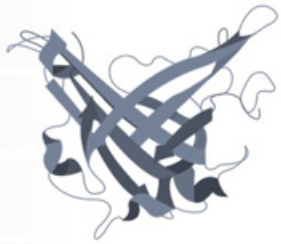
PRS-220: Rationale for Best-in-Class Potential

Potential key points of differentiation of inhaled PRS-220 compared to systemically delivered CTGF antagonists:

More Efficient Target Saturation	• Avoidance of systemic CTGF sink (in blood) • Significantly higher affinity with superior binding profile
Superior Lung Biodistribution	• Local delivery to the site of the disease in the lung via inhalation • Increased concentration
Increased Convenience	• Inhalation at home compared to regular visits to infusion centers for i.v. administrations • Administration on top of standard of care

PRS-400: An Inhaled JAG1 Antagonist

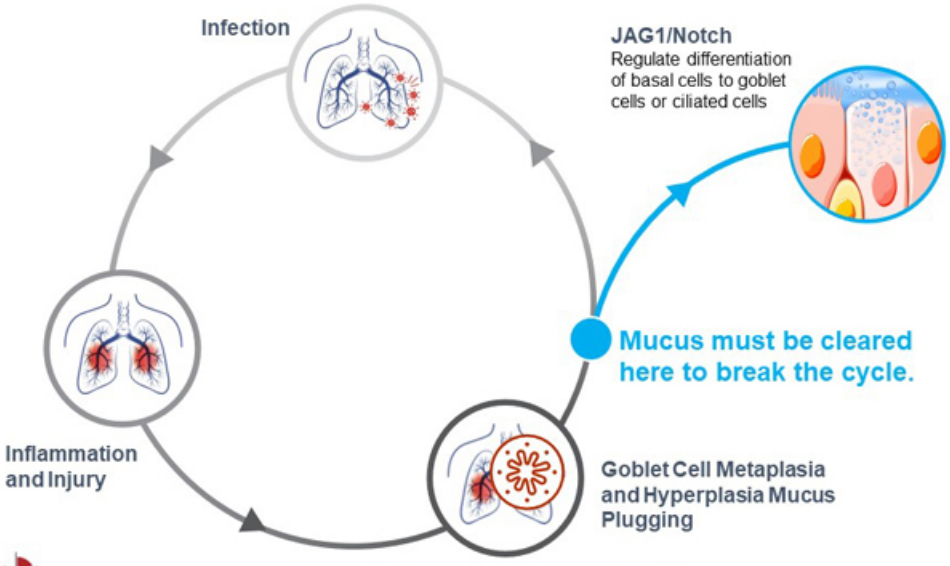
Candidate	PRS-400
Function/MoA	Inhibiting Jagged-1
Indications	Respiratory Diseases: COPD, CF, PCD, CRS, Bronchiectasis and Asthma*
Development	Preclinical
Commercial Rights	Fully proprietary



*COPD - Chronic Obstructive Pulmonary Disease; CF - Cystic Fibrosis; PCD - Primary Ciliary Dyskinesia; CRS - Chronic Rhinosinusitis

Breaking the Vicious Cycle

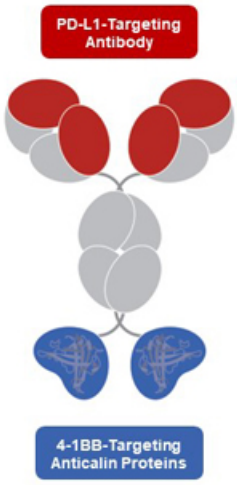
PRS-400 (ANTI-JAG1) DESIGNED TO DISRUPT MASTER REGULATOR OF MUCUS PRODUCTION



PRS-400 is designed to block JAG1/Notch signaling, reversing, INDEPENDENT of stimulus, GCM, GCH and mucus plugging, as well as increasing number of ciliated cells

PRS-344/S095012: Localized 4-1BB Agonism with PD-L1 Antagonism

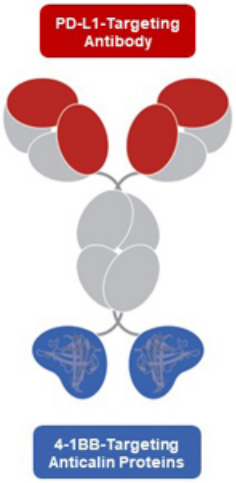
Candidate	PRS-344/S095012
Function/MoA	Localized 4-1BB agonism with PD-L1 antagonism
Indications	N.D.
Development	Phase 1 (in co-dev with Servier)
Commercial Rights	Full U.S. commercial rights; royalty on ex-U.S. sales



PRS-344/S095012: Why 4-1BB/PD-L1

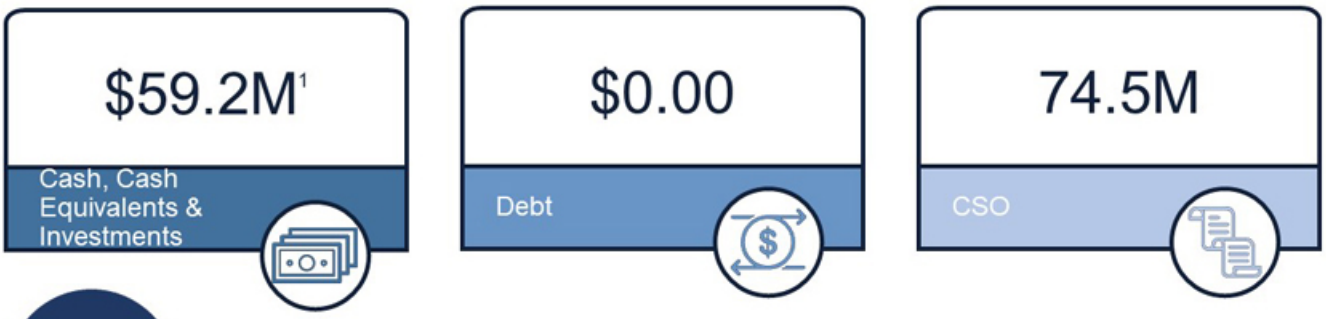
PRS-344/S095012 is designed to activate 4-1BB on tumor-specific T cells when bridging to PD-L1-expressing tumors and dendritic cells

Molecule designed to drive potent 4-1BB agonism with an optimal therapeutic window



Affinity	Binds with 5nM affinity to 4-1BB (lower than competitors) with 7-fold higher affinity to PD-L1 (0.6nM)
Valency	Bivalent 4-1BB inactive peripherally but potent activation potential when clustered on PD-L1-positive cells
Geometry and flexibility	Empirically tested multiple bispecific prototypes for best effect with objective of recreating natural immune synapse
4-1BB epitope	Ligand independent to avoid disrupting peripheral immune surveillance (safety) while facilitating ligand engagement when drug-bound (efficacy)

Financial Overview (as of 12/31/22)



>$175M non-dilutive capital from partnerships since 2017

~$17M[2] grant announced in 2021

[1] *Excludes $5M milestone received from Seagen for first patient dosing in SGN-BB228*
[2] *Calculated based on the June 25, 2021, noon buying rate of €1.00 to U.S. $1.1938*

225 Franklin Street
Boston, MA 02110
USA

Zeppelinstraße 3
85399 Hallbergmoos
Germany

Nasdaq: PIRS