

PROSPECTUS SUPPLEMENT NO. 5
To Prospectus dated May 12, 2015

27,321,870 Shares

PIERIS PHARMACEUTICALS, INC.

Common Stock

This prospectus supplement no. 5 supplements the prospectus dated May 12, 2015, relating to the offering and resale by the selling stockholders identified in the prospectus of up to 27,321,870 shares of our common stock, par value \$0.001 per share. These shares were privately issued to the selling stockholders on December 17, December 18, and December 23, 2014 in connection with a private placement and a share exchange transaction described in the prospectus.

This prospectus supplement incorporates into our prospectus the information contained in our attached Current Report on Form 8-K, which was filed with the Securities and Exchange Commission on August 18, 2015.

You should read this prospectus supplement in conjunction with the prospectus, including any supplements and amendments thereto. This prospectus supplement is qualified by reference to the prospectus except to the extent that the information in the prospectus supplement supersedes the information contained in the prospectus.

This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any supplements and amendments thereto.

Our common stock is quoted on the NASDAQ Capital Market under the symbol "PIRS." As of August 17, 2015 the last reported sale price for our common stock as reported on the NASDAQ Capital Market was \$3.36 per share.

Investment in our common stock involves risks. See "Risk Factors" beginning on page 8 of the prospectus.

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

The date of this prospectus supplement is August 18, 2015.

**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): August 18, 2015

PIERIS PHARMACEUTICALS, INC.
(Exact Name of Registrant as Specified in its Charter)

Nevada
(State of Incorporation)

001-37471
(Commission
File Number)

EIN 30-0784346
(IRS Employer
Identification No.)

Lise-Meitner-Strasse 30
85354 Freising-Weiherstephan, Germany
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: +49 81 6114 11400

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))
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Item 8.01 Other Events.

On August 18, 2015, Pieris Pharmaceuticals, Inc. (the "Company") issued a press release announcing the appointment of Louis Matis, M.D., as Senior Vice President and Chief Development Officer of the Company.

A copy of the press release issued by the Company on August 18, 2015 is filed as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits

(d) *Exhibits.*

99.1 Press release dated August 18, 2015.

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.

Dated: August 18, 2015

PIERIS PHARMACEUTICALS, INC.

By: /s/ Darlene Deptula-Hicks

Name: Darlene Deptula-Hicks

Title: Acting Chief Financial Officer

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press dated August 18, 2015.

**PRESS RELEASE****PIERIS PHARMACEUTICALS APPOINTS LOUIS A. MATIS, M.D., AS CHIEF DEVELOPMENT OFFICER**

FREISING, GERMANY, August 18, 2015 – Pieris Pharmaceuticals, Inc. (NASDAQ: PIRS), a biotechnology company advancing novel biotherapeutics through its proprietary Anticalin[®] technology platform, today announced that it has appointed Louis Matis, M.D., as Senior Vice President and Chief Development Officer. Dr. Matis is an accomplished executive in the biotech industry and brings to Pieris a demonstrable track record of success in the development of novel biotherapeutics spanning more than two decades.

“Lou’s appointment will have a major and positive impact for Pieris, as we progress our lead Anticalin[®]-based therapeutic proteins into and through clinical trials in anemia, asthma, and immuno-oncology,” commented Stephen Yoder, President and Chief Executive Officer of Pieris. “His deep background in immunobiology and medical oncology, and broad translational therapeutic experience make for a perfect fit for Pieris.”

Prior to joining Pieris, Dr. Matis served since June 2011 as Executive Director, Strategic Evaluation at Alexion Pharmaceuticals, where he also served from 1993 to 2000, during which time he advanced to the position of Chief Scientific Officer and had a leading role in discovering the first-in-class complement inhibitor monoclonal antibody Soliris[®] (eculizumab). Before re-joining Alexion in 2011, Dr Matis served as CEO of CGI Pharmaceuticals, Inc. from 2000 to 2006, and of the Immune Tolerance Institute from 2007 to 2010. From 1977 until joining Alexion in 1993, Dr. Matis held senior research and clinical positions at the National Cancer Institute (NCI), National Institutes of Health (NIH), in Bethesda, MD, and the FDA Center for Biologics Evaluation and Research (CBER). Dr. Matis holds a B.A. from Amherst College and an M.D. from the University of Pennsylvania, Perelman School of Medicine, receiving his clinical training in Internal Medicine at the University of Chicago Hospitals and Clinics, and in Medical Oncology at the NCI. Dr. Matis is the author of over 120 publications in major scientific and medical journals and is a co-inventor on multiple patents.

“I’m delighted to join Pieris at this transformative time for the company and look forward to working with the Pieris team to advance the company’s pipeline of novel, highly differentiated therapies addressing major unmet clinical needs,” said Dr. Matis. “Immuno-oncology represents a paradigm shift in cancer treatment, and Pieris’ broad portfolio of multi-targeted product candidates holds great promise for enhanced efficacy and safety as next generation cancer immunotherapeutics.”

In connection with the hiring of Dr. Matis, the Company’s Compensation Committee authorized on July 18, 2015 the grant to Dr. Matis of a non-qualified stock option to purchase up to 500,000 shares of the Company’s common stock, effective as of the first day of his employment, which grant was ratified by the full Board on July 18, 2015. The option grant is

an inducement material to Dr. Matis's entering into employment with the Company in accordance with NASDAQ listing Rule 5635(c)(4). The option has an exercise price of \$3.36 per share, the fair market value of the Company's common stock on the date of grant and will vest as to 25% of the shares on the first anniversary of Dr. Matis's employment and as to an additional 6.25% of the shares per quarter thereafter, provided that he continues to provide service to the Company on the applicable vesting date. The option has a ten year term and is subject to the terms and conditions of a stock option agreement.

About Pieris Pharmaceuticals:

Pieris is a clinical-stage biotechnology company advancing its proprietary Anticalin[®] technology to create differentiated drugs that have the potential to be safer and more effective than conventional approaches. Anticalins show promise in addressing high-unmet medical needs and expanding the potential of targeted therapeutics. The company currently has a diverse proprietary pipeline and has ongoing R&D collaborations with Daiichi Sankyo, the Sanofi Group, Zydus Cadila, Stelis Biopharma and Allergan. Anticalin[®], Anticalins[®] are registered trademarks of Pieris. 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 and Section 21E of the Securities Exchange Act of 1934. Statements in this press release that are not purely historical are forward-looking statements. Such forward-looking statements include, among other things, references to novel technologies and methods; our business and product development plans; our liquidity and ability to fund our future operations; or market information. 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; our ability to develop, complete clinical trials for, obtain approvals for and commercialize any of our product candidates; competition in the industry in which we operate 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 SEC available at www.sec.gov, including without limitation the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 and the Company's Quarterly Reports on Form 10-Q.

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