

Lantheus and Progenics Agree to Amended Transaction Terms

February 20, 2020

Combination to Create Robust Portfolio and Pipeline of Precision Diagnostic and Therapeutic Products

Progenics Shareholders Will Receive 0.31 Shares of Lantheus Common Stock for Each Share of Progenics Stock in All-Stock Transaction, Represents Approximately 40% Ownership Stake in Combined Company

Progenics Shareholders Will Also Receive Non-Tradeable Contingent Value Right Payable in Cash Based on Achievement of Certain PyL Net Sales
Thresholds

Two Progenics Directors to Join Board of Directors of Combined Company

NORTH BILLERICA, Mass. & NEW YORK--(BUSINESS WIRE)--Feb. 20, 2020-- Lantheus Holdings, Inc. (NASDAQ: LNTH) ("Lantheus"), parent company of Lantheus Medical Imaging, Inc. ("LMI"), a leader in the development, manufacture and commercialization of innovative diagnostic imaging agents and products, and Progenics Pharmaceuticals, Inc. (NASDAQ: PGNX) ("Progenics"), an oncology company developing innovative medicines and artificial intelligence to find, fight and follow cancer, today announced that they have entered into an Amended and Restated Agreement and Plan of Merger (the "Amended Agreement") which amends the previously announced definitive Agreement and Plan of Merger dated as of October 1, 2019 (the "Original Agreement"). The Amended Agreement has been unanimously approved by the Boards of Directors of both companies.

Under the terms of the Amended Agreement, Lantheus will acquire all of the issued and outstanding shares of Progenics common stock at a fixed exchange ratio whereby Progenics stockholders will receive, for each share of Progenics stock held at the time of the closing of the merger, 0.31 of a share of Lantheus common stock, increased from 0.2502 under the Original Agreement, together with a non-tradeable contingent value right ("CVR"). The CVR is payable in two separate cash payments if PyLTM (18F-DCFPyL), Progenics' prostate-specific membrane antigen targeted imaging agent designed to visualize prostate cancer currently in late stage clinical development ("PyL"), exceeds net sales thresholds of \$100 million in 2022 and \$150 million in 2023. As a result of the increase in the exchange ratio, following the completion of the merger, former Progenics stockholders' aggregate ownership stake will increase to approximately 40% of the combined company from approximately 35% under the terms set forth in the Original Agreement.

Mary Anne Heino, President and Chief Executive Officer of Lantheus, said, "After continued integration planning with Progenics and close collaboration with Progenics' reconstituted Board of Directors, we are even more excited about the potential value we can unlock by combining our two businesses. We remain confident that together, we will create a platform that leverages Lantheus' long-standing expertise in complex manufacturing, supply chain and commercial excellence, with Progenics' three leading FDA approved products, clinical pipeline and development capabilities. Our team enthusiastically shares the view of Progenics stockholders in the long-term growth potential of the Progenics product portfolio and, with our complementary strengths, our combined company will be better able to serve patients and healthcare professionals across the continuum of critical diagnosis and care. We are also pleased with the progress the two companies have made toward closing throughout our discussions."

Gérard Ber, Ph.D. and Mr. Heinz Mäusli, two members of Progenics' reconstituted Board, will join the Lantheus Board upon closing. Lantheus will reduce its current ten member Board to nine members at its 2020 stockholders meeting, or sooner if this transaction closes before then. Lantheus will further reduce its Board to eight members at its 2021 stockholders meeting. As previously announced, the combined company will be led by Lantheus Chief Executive Officer Mary Anne Heino, who will be supported by Chief Financial Officer Robert J. Marshall Jr., CFA, and Chief Operations Officer John Bolla.

Brian Markison, Chairman of the Board of Lantheus, said, "We are excited about the additions of Dr. Ber and Mr. Mäusli to our board. Both Dr. Ber and Mr. Mäusli add experience in radiopharmaceuticals with deep manufacturing, operating, finance and compliance experience."

Ann MacDougall, Interim Chair of Progenics' Board, said, "We have been pleased to work with Lantheus on the amended merger agreement. The Progenics' Board has unanimously determined that the combination with Lantheus under the updated terms is in the best interest of our stockholders. The merger creates a stronger combined platform that offers an innovative and diversified diagnostic and therapeutics portfolio while ensuring stockholders the opportunity to participate in the future potential upside through enhanced ownership and the CVRs. The reconstituted Progenics Board, assisted by independent financial and legal advisors, has evaluated the business prospects and operations of Progenics as a stand-alone business as well as the value of the Progenics interest in the combined company under the revised terms in the merger transaction, and have concluded that the combination is the better path forward. We are also pleased to have our directors, Dr. Gérard Ber and Mr. Heinz Mäusli, join the Board of the combined company to enhance its prospects for future success."

David Mims, Interim CEO of Progenics, added, "We believe the combination will add significant value to both companies' stockholders, especially in light of the recent positive results we achieved with our PyL Phase 3 CONDOR trial and our product pipeline and research and development capabilities."

Lantheus' Strategic Plan for Progenics

As previously announced on November 7, 2019, Lantheus provided a strategic plan that provides stockholders of both companies with a clear and thoughtful strategy in which Lantheus will leverage its existing infrastructure and long-standing expertise to deliver on the promise of Progenics' product portfolio and maximize value for all stockholders. The Lantheus team remains confident in the combination with Progenics as Lantheus has a clear track record of creating significant stockholder value, built on in-house operational excellence, commercial expertise, financial discipline and robust corporate governance.

In addition, through its extensive due diligence process and continued discussions with the Progenics Board, Lantheus has identified actions and investments in 2020 that will help enhance the progress of AZEDRA and the PyL and 1095 programs. Lantheus remains well-positioned to ensure that the Progenics portfolio has the benefit of access to cost-effective capital, manufacturing capabilities, logistical support and personnel resources to succeed.

With a focus on commercial, operational and clinical enhancements under the management of its proven team, Lantheus' strategic plan represents the highest value, most certain and expedient path forward to drive significant, long-term value for stockholders of both Progenics and Lantheus.

Strong Financial Rationale

As a result of the recently reported positive top line results from the PyL Phase 3 CONDOR trial and ongoing integration planning, Lantheus believes this combination can generate double digit revenue growth, as well as drive margin expansion through the previously disclosed 2023 planning horizon. Accordingly, Lantheus continues to believe it can achieve adjusted EPS accretion in the third year following the close of the transaction.

Additional Transaction Details

Lantheus has also agreed to make available to Progenics up to \$10 million of bridge financing on terms mutually agreed upon by the parties. The merger transaction is expected to close early in the second quarter of 2020, subject to approval by Lantheus and Progenics stockholders and satisfaction of other customary closing conditions.

Upon completion of the acquisition, the combined company will continue to be headquartered in North Billerica, Massachusetts and will trade on the NASDAQ under the ticker symbol: LNTH.

Advisors

SVB Leerink LLC is acting as financial advisor and White & Case LLP is acting as legal counsel to Lantheus. Progenics engaged BofA Securities, Inc. as financial advisor and previously engaged Jefferies LLC as existing lead financial advisor. Covington & Burling LLP and Mayer Brown LLP serve as independent legal advisors to Progenics.

Lantheus' comprehensive strategic plan, along with additional documents related to its proposed acquisition of Progenics, can be viewed at www.lantheusprogenics.transactionannouncement.com/, and can also be viewed on the SEC's website at www.sec.gov.

About Lantheus Holdings, Inc. and Lantheus Medical Imaging, Inc.

Lantheus Holdings, Inc. is the parent company of LMI, a global leader in the development, manufacture and commercialization of innovative diagnostic imaging agents and products. LMI provides a broad portfolio of products, including the echocardiography contrast agent DEFINITY® Vial for (Perflutren Lipid Microsphere) Injectable Suspension and TechneLite® (Technetium Tc99m Generator), a technetium-based generator that provides the essential medical isotope used in nuclear medicine procedures. The Company is headquartered in North Billerica, Massachusetts with offices in Puerto Rico and Canada. For more information, visit www.lantheus.com.

About Progenics

Progenics is an oncology company focused on the development and commercialization of innovative targeted medicines and artificial intelligence to find, fight and follow cancer, including: therapeutic agents designed to treat cancer (AZEDRA®, 1095, and PSMA TTC); prostate-specific membrane antigen ("PSMA") targeted imaging agents for prostate cancer (PyL™ and 1404); and imaging analysis technology (aBSI and PSMA AI). Progenics has three commercial products, AZEDRA, for the treatment of patients with unresectable, locally advanced or metastatic pheochromocytoma or paraganglioma (rare neuroendocrine tumors of neural crest origin) who require systemic anticancer therapy; and oral and subcutaneous formulations of RELISTOR® (methylnaltrexone bromide) for the treatment of opioid-induced constipation, which are partnered with Bausch Health Companies Inc.

Important Information For Investors And Stockholders

This document does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to appropriate registration or qualification under the securities laws of such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the U.S. Securities Act of 1933, as amended.

In connection with the proposed transaction, Lantheus filed with the Securities and Exchange Commission ("SEC") a registration statement on Form S-4 on November 12, 2019 that includes a joint proxy statement of Lantheus and Progenics Pharmaceuticals, Inc. ("Progenics") that also constitutes a preliminary prospectus of Lantheus. The registration statement has not yet become effective. After the registration statement is declared effective by the SEC, a definitive joint proxy statement/prospectus will be mailed to stockholders of Lantheus and Progenics. INVESTORS AND SECURITY HOLDERS OF LANTHEUS AND PROGENICS ARE STRONGLY ENCOURAGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS AND OTHER DOCUMENTS THAT ARE FILED OR WILL BE FILED WITH THE SEC CAREFULLY AND IN THEIR ENTIRETY BECAUSE THEY CONTAIN OR WILL CONTAIN IMPORTANT INFORMATION. Investors and security holders are able to obtain free copies of the registration statement and the joint proxy statement/prospectus and other documents filed with the SEC by Lantheus or Progenics through the website maintained by the SEC at https://www.sec.gov.

Copies of the documents filed with the SEC by Lantheus will also be available free of charge on Lantheus' website at https://www.lantheus.com or by contacting Lantheus' Investor Relations Department by email at jr@lantheus.com or by phone at (978) 671-8001. Copies of the documents filed with the SEC by Progenics will also be available free of charge on Progenics' internet website at https://www.progenics.com or by contacting Progenics' Investor Relations Department by email at mdowns@progenics.com or by phone at (646) 975-2533.

Certain Information Regarding Participants

Lantheus, Progenics, and their respective directors and executive officers may be considered participants in the solicitation of proxies in connection with the proposed transaction. Information about the directors and executive officers of Lantheus is set forth in its Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 20, 2019, its definitive proxy statement for its 2019 annual meeting of

stockholders, which was filed with the SEC on March 15, 2019, and its Current Report on Form 8-K, which was filed with the SEC on March 25, 2019. Other information regarding the participants of Lantheus in the proxy solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the joint proxy statement/prospectus and other relevant materials to be filed with the SEC regarding the proposed transaction when they become available.

Information about the directors and executive officers of Progenics is set forth in its Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on March 15, 2019 and amended on April 30, 2019, its definitive proxy statement for its 2019 annual meeting of stockholders, which was filed with the SEC on May 30, 2019, and its Current Report on Form 8-K, which was filed with the SEC on November 21, 2019. Other information regarding the participants of Progenics in the proxy solicitations and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the joint proxy statement/prospectus and other relevant materials to be filed with the SEC regarding the proposed transaction when they become available. You may obtain these documents (when they become available) free of charge through the website maintained by the SEC at https://www.sec.gov and from Investor Relations at Lantheus or Progenics as described above.

Cautionary Statement Regarding Forward-Looking Statements

This document contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to risks and uncertainties and are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Such statements are based upon current plans, estimates and expectations that are subject to various risks and uncertainties. The inclusion of forward-looking statements should not be regarded as a representation that such plans, estimates and expectations will be achieved. Words such as "anticipate," "expect," "project," "intend," "believe," "may," "will," "should," "plan," "could," "target," "contemplate," "estimate," "predict," "potential," "opportunity," "creates" and words and terms of similar substance used in connection with any discussion of future plans, actions or events identify forward-looking statements. All statements, other than historical facts, including the expected timing of the closing of the merger; the ability of the parties to complete the merger considering the various closing conditions; the expected benefits of the merger, such as efficiencies, cost savings, synergies, revenue growth, creating shareholder value, growth potential, market profile, enhanced competitive position, and financial strength and flexibility; the competitive ability and position of the combined company; and any assumptions underlying any of the foregoing, are forward-looking statements. Important factors that could cause actual results to differ materially from Lantheus' and Progenics' plans, estimates or expectations could include, but are not limited to: (i) Lantheus or Progenics may be unable to obtain stockholder approval as required for the merger; (ii) conditions to the closing of the merger may not be satisfied; (iii) the merger may involve unexpected costs, liabilities or delays; (iv) the effect of the announcement of the merger on the ability of Lantheus or Progenics to retain and hire key personnel and maintain relationships with customers, suppliers and others with whom Lantheus or Progenics does business, or on Lantheus' or Progenics' operating results and business generally; (v) Lantheus' or Progenics' respective businesses may suffer as a result of uncertainty surrounding the merger and disruption of management's attention due to the merger; (vi) the outcome of any legal proceedings related to the merger; (vii) Lantheus or Progenics may be adversely affected by other economic, business, and/or competitive factors: (viii) the occurrence of any event, change or other circumstances that could give rise to the termination of the merger agreement; (ix) risks that the merger disrupts current plans and operations and the potential difficulties in employee retention as a result of the merger; (x) the risk that Lantheus or Progenics may be unable to obtain governmental and regulatory approvals required for the transaction, or that required governmental and regulatory approvals may delay the transaction or result in the imposition of conditions that could reduce the anticipated benefits from the proposed transaction or cause the parties to abandon the proposed transaction; (xi) risks that the anticipated benefits of the merger or other commercial opportunities may otherwise not be fully realized or may take longer to realize than expected; (xiii) the impact of legislative, regulatory, competitive and technological changes; (xiii) expectations for future clinical trials, the timing and potential outcomes of clinical studies and interactions with regulatory authorities; and (xiv) other risks to the consummation of the merger, including the risk that the merger will not be consummated within the expected time period or at all. Additional factors that may affect the future results of Lantheus and Progenics are set forth in their respective filings with the SEC, including each of Lantheus' and Progenics' most recently filed Annual Report on Form 10-K, subsequent Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other filings with the SEC, which are available on the SEC's website at www.sec.gov. Readers are urged to consider these factors carefully in evaluating these forward-looking statements, and not to place undue reliance on any forward-looking statements. Readers should also carefully review the risk factors described in other documents that Lantheus and Progenics file from time to time with the SEC. The forward-looking statements in this document speak only as of the date of these materials. Except as required by law, Lantheus and Progenics assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

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