

The following communication is being filed in connection with the proposed transaction involving Lantheus Holdings, Inc. and Progenics Pharmaceuticals, Inc.

ECHOCARDIOGRAPHY CUSTOMERS – FREQUENTLY ASKED QUESTIONS

GENERAL OBSERVATIONS

- For those not familiar, Progenics is a company focused on developing targeted medicines to find, fight and follow cancer by providing diagnostics that help guide physicians and therapeutics that help treat patients.
- This is a very exciting development and aligns well with Lantheus' growth strategies.
- Progenics' portfolio currently includes three FDA approved products, as well as a rich product pipeline. AZEDRA®, approved in July 2018, is the first and only FDA approved product used to treat adult and pediatric patients 12 years and older for the ultra-orphan indications of pheochromocytoma and paraganglioma. Progenics' other approved products are oral and subcutaneous formulations of RELISTOR®, the leading treatment of opioid-induced constipation in adults with chronic pain, which are licensed to Bausch Health.
- Our team is looking forward to unlocking the full potential that this combination has to offer for our customers and partners and the healthcare professionals and patients we serve.
- We continue to enhance the value of our core microbubble franchise, including two active programs: DEFINITY® LVEF (left ventricular ejection fraction) and DEFINITY® room temperature formulation, both with expected commercialization in late 2020 to early 2021.
- The resulting company will serve patients and healthcare professionals across the continuum of critical diagnosis and care as we leverage our complementary strengths and products.
- With that said, there will be no changes to our relationship with you today, and it is business as usual at Lantheus.
- Until the transaction closes, which we currently expect to be in the first quarter of 2020, we will continue to operate as two separate companies.
- As the process moves forward over the coming months, we will keep you informed of any changes you should be aware.
- We are committed to maintaining and strengthening the partnerships we have developed with you.

1. Will the integration cause any disruptions?

- a. No.
- b. We are putting in place a fully dedicated integration project management office to drive execution and accountability to ensure an effective and seamless integration.
- c. We are committed to keeping you appropriately apprised of any updates.

2. Will this distract Lantheus from its echocardiography programs?

- a. No.
- b. With a strengthened foundation, we remain committed to expanded opportunities with DEFINITY®, including an indication for LVEF.
 - i. We believe this has the potential to improve the accuracy of LVEF calculations, giving clinicians greater confidence in patient management decisions.
- c. We are also developing a room temperature formulation, and commercialization could start as early as 2020.

3. What is the benefit to customers?

- a. We anticipate that the transaction will enhance the value we provide to customers.
- b. With our strengthened platform, we will further be able to invest in our expanded portfolio with a focus on efficiently bringing products to commercialization for the benefit of our customers and the patients we serve.

4. Why are Lantheus and Progenics better together?

- a. As we work to bring our companies together, we will assess opportunities to invest in our expanded portfolio with a focus on efficiently bringing the portfolio to commercialization for the benefit of our customers and patients.
- b. We will maintain our leadership position in echocardiography and expertise in microbubbles while expanding our radiopharmaceuticals business.
- c. In addition, with a stronger foundation, we will be well positioned to support investments across our diversified business.

5. Does Progenics offer any products in echocardiography?

- a. The combination with Progenics broadens our radiopharmaceutical platform, which will strengthen Lantheus' diversified platform.
- b. We remain committed to expanding our leading echocardiography portfolio and continuing to enhance the value of our core microbubble franchise

6. Will you continue to use the Progenics name and brand names?

- a. There are still decisions to be made as it is still early in the process.
- b. Progenics' oncology and PSMA-focused portfolio currently includes three FDA approved products and a rich product pipeline.

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 Holdings intends to file with the Securities and Exchange Commission ("SEC") a registration statement on Form S-4 that will include a joint proxy statement of Lantheus Holdings and Progenics that also constitutes a prospectus of Lantheus Holdings. Each of Lantheus Holdings and Progenics also plan to file other relevant documents with the SEC regarding the proposed transaction. Any definitive joint proxy statement/prospectus (if and when available) will be mailed to stockholders of Lantheus Holdings and Progenics. **INVESTORS AND SECURITY HOLDERS OF LANTHEUS HOLDINGS AND PROGENICS ARE STRONGLY ENCOURAGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS AND OTHER DOCUMENTS THAT WILL BE FILED WITH THE SEC CAREFULLY AND IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION.** Investors and security holders will be able to obtain free copies of the registration statement and the joint proxy statement/prospectus (if and when available) and other documents filed with the SEC by Lantheus Holdings or Progenics through the website maintained by the SEC at <https://www.sec.gov>.

Copies of the documents filed with the SEC by Lantheus Holdings will also be available free of charge on Lantheus Holdings' website at <https://www.lantheus.com/> or by contacting Lantheus Holdings' Investor Relations Department by email at ir@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 Holdings, 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 Holdings 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 Holdings 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, and its definitive proxy statement for its 2019 annual meeting of stockholders, which was filed with the SEC on May 30, 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 Holdings 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 Holdings’ and Progenics’ plans, estimates or expectations could include, but are not limited to: (i) Lantheus Holdings 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 Holdings or Progenics to retain and hire key personnel and maintain relationships with customers, suppliers and others with whom Lantheus Holdings or Progenics does business, or on Lantheus Holdings’ or Progenics’ operating results and business generally; (v) Lantheus Holdings’ 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 Holdings 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 Holdings 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; (xii) 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 Holdings and Progenics are set forth in their respective filings with the SEC, including each of Lantheus Holdings' 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 Holdings 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 Holdings 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.