

Lantheus Holdings, Inc.
331 Treble Cove Road
North Billerica, MA 01862

July 25, 2014

VIA EDGAR AND EMAIL

Securities and Exchange Commission
100 F Street, NE
Washington, D.C. 20549-3561
Attn: Jeffrey P. Riedler

Re: Lantheus Holdings, Inc.
Registration Statement on Form S-1
(File No. 333-196998)

Ladies and Gentlemen:

We refer to the registration statement on Form S-1 (File No. 333-196998) (as amended, the "Registration Statement"), of Lantheus Holdings, Inc. (the "Company"), relating to the registration of the Company's common stock, par value \$0.01 per share.

In accordance with Rule 461 under the Securities Act of 1933, as amended, the Company hereby respectfully requests the acceleration of the effectiveness of the Registration Statement so that it may become effective at 2:00 p.m. (Eastern time) on Tuesday, July 29, 2014 or as soon as practicable thereafter.

The Company hereby acknowledges the following:

- should the Securities and Exchange Commission (the "Commission") or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the Company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the Company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, the Company hereby confirms that it is aware of its responsibilities under the Securities Act and the Securities Exchange Act of 1934, as amended, as they relate to the proposed public offering of the securities specified in the Registration Statement.

Please call Heather L. Emmel at (212) 310-8849 or Noah B. Kressler at (212) 310-8360, of Weil, Gotshal & Manges LLP, to confirm the effectiveness of the Registration Statement.

Very truly yours,

Lantheus Holdings, Inc.

By: /s/ Michael P. Duffy

Name: Michael P. Duffy

Title: Vice President, General
Counsel and Secretary