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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

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**FORM 8-A**

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**FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES  
PURSUANT TO SECTION 12(b) OR (g) OF  
THE SECURITIES EXCHANGE ACT OF 1934**

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**Lantheus Holdings, Inc.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State of incorporation or organization)

**35-2318913**  
(I.R.S. Employer Identification No.)

**331 Treble Cove Road**  
**North Billerica, Massachusetts**  
(Address of principal executive offices)

**01862**  
(Zip Code)

Title of each class  
to be registered  
**Common stock, par value \$0.01 per share**

Name of each exchange on which  
each class is to be registered  
**The NASDAQ Stock Market LLC**

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If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c), check the following box.

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d), check the following box.

**Securities Act registration statement file number to which this form relates:**

**333-196998**  
(if applicable)

**Securities to be registered pursuant to Section 12(g) of the Act: None**

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**Item 1. Description of Registrant's Securities to be Registered.**

The securities to be registered hereunder are shares of common stock, par value \$0.01 per share (the "Common Stock"), of Lantheus Holdings, Inc. (the "Registrant"). A description of Common Stock is set forth under the heading "Description of Capital Stock" in the Registrant's prospectus, which constitutes a part of the Registrant's Registration Statement on Form S-1 (File No. 333-196998), originally filed with the Securities and Exchange Commission on June 24, 2014, as amended by any amendments to such Registration Statement, and by any prospectus subsequently filed pursuant to Rule 424(b) under the Securities Act of 1933, as amended, which description is incorporated herein by reference.

**Item 2. Exhibits.**

Under the Instructions as to Exhibits with respect to Form 8-A, no exhibits are required to be filed because no other securities of the Registrant are registered on The NASDAQ Stock Market LLC and the securities registered hereby are not being registered pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended.

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**SIGNATURE**

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

Dated: July 25, 2014

LANTHEUS HOLDINGS, INC.

By: /s/ Michael P. Duffy

Name: Michael P. Duffy

Title: Vice President, General Counsel and Secretary