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

FORM S–8 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Lantheus Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)

331 Treble Cove Road North Billerica, Massachusetts 01862 (Address of Principal Executive Offices) 35-2318913 (I.R.S. Employer Identification No.)

> 01862 (Zip Code)

Lantheus Holdings, Inc. 2015 Equity Incentive Plan (Full Title of Plan)

> Daniel Niedzwiecki Senior Vice President and General Counsel 331 Treble Cove Road, Building 600-2 North Billerica, Massachusetts 01862 (Name and address of agent for service)

(978) 671-8648 (Telephone number, including area code, of agent for service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large Accelerated filer

Non-accelerated filer \Box

Accelerated filer□Smaller reporting company□Emerging growth company□

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

EXPLANATORY NOTE

Lantheus Holdings, Inc. (the "Registrant") is filing this Registration Statement on Form S-8 (this "Registration Statement") to register an additional 1,750,000 shares of its common stock, par value \$0.01 per share, that may be issued and sold under the Lantheus Holdings, Inc. 2015 Equity Incentive Plan, as amended (the "Plan"), following the amendment to the Plan that was approved by the Registrant's stockholders at its annual meeting on April 28, 2022. This Registration Statement is submitted in accordance with General Instruction E to the Registration Statement on Form S-8 regarding registration of additional securities, and pursuant to that instruction, the contents of the Registration Statements on Form S-8 (File No. 333-205211, File No. 333-214343, File No. 333-220049, File No. 333-232919 and File No. 333-258454) filed with the Securities and Exchange Commission on June 25, 2015, October 31, 2016, August 18, 2017, July 31, 2019 and August 4, 2021, respectively, are incorporated herein by reference.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 8. Exhibits.

See Exhibit Index below.

EXHIBIT INDEX

		INCORPORATED BY REFERENCE			
EXHIBIT NUMBER	DESCRIPTION OF EXHIBITS	FORM	FILE NUMBER	EXHIBIT	FILING DATE
4.1	Amended and Restated Certificate of Incorporation of Lantheus Holdings,				
	Inc.	8-K	001-36569	3.1	April 27, 2018
4.2	Amended and Restated Bylaws of Lantheus Holdings, Inc.	8-K	001-36569	3.2	December 27, 2021
4.3	Common Stock Certificate.	8-K	001-36569	4.1	June 30, 2015
4.4	Lantheus Holdings, Inc. 2015 Equity Incentive Plan.	S- 1/A	333-196998	10.37	June 16, 2015
4.5	Form of 2015 Restricted Stock Agreement.	S- 1/A	333-196998	10.38	June 16, 2015
4.6	Form of 2015 Option Award Agreement.	S- 1/A	333-196998	10.39	June 16, 2015
4.7	<u>Form of Restricted Stock Unit Award Agreement (Employee Time-Based</u> <u>Vesting).</u>	10-Q	001-36569	10.2	April 29, 2022
4.8	<u>Form of Restricted Stock Unit Award Agreement (Relative Total</u> <u>Shareholder Return Performance-Based Vesting).</u>	10-Q	001-36569	10.3	April 29, 2022
4.9	Form of Stock Option Award Agreement (Time Vesting).	10-Q	001-36569	10.4	April 29, 2022
4.10	Amendment to Lantheus Holdings, Inc. 2015 Equity Incentive Plan.	8-K	001-36569	10.1	April 28, 2016
4.11	Second Amendment to Lantheus Holdings, Inc. 2015 Equity Incentive Plan.	8-K	001-36569	10.1	April 28, 2017
4.12	Third Amendment to Lantheus Holdings, Inc. 2015 Equity Incentive Plan.	10-Q	001-36569	10.1	April 30, 2019
4.13	Fourth Amendment to Lantheus Holdings, Inc. 2015 Equity Incentive Plan.	8-K	001-36569	10.1	April 26, 2019
4.14	Fifth Amendment to Lantheus Holdings, Inc. 2015 Equity Incentive Plan.	8-K	001-36569	10.1	April 29, 2021
4.15	Sixth Amendment to Lantheus Holdings, Inc. 2015 Equity Incentive Plan.	8-K	001-36569	10.1	May 2, 2022
5.1*	<u>Legal Opinion of Foley Hoag LLP.</u>				

23.1* <u>Consent of Independent Registered Public Accounting Firm, Deloitte &</u> <u>Touche LLP.</u>

23.2* Consent of Foley Hoag LLP (included as part of Exhibit 5.1).

24.1* <u>Power of Attorney (included as part of the signature page hereto).</u>

107* <u>Filing Fee Table.</u>

* Filed herewith

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933 the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of North Billerica, Commonwealth of Massachusetts, on May 12, 2022.

Lantheus Holdings, Inc.

By:	/s/ Mary Anne Heino		
Name:	Mary Anne Heino		
Title:	President and Chief Executive Officer		

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each of the undersigned constitutes and appoints each of Mary Anne Heino, Robert J. Marshall, Jr. and Daniel Niedzwiecki, each acting alone, her or his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for such person and in her or his name, place and stead, in any and all capacities, to sign this Registration Statement on Form S-8 (including all pre-effective amendments and registration statements filed pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, each acting alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming that any such attorney-in-fact and agent, or her or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date	
/s/ Mary Anne Heino	President, Chief Executive Officer and Director		
Mary Anne Heino	(Principal Executive Officer)	May 12, 2022	
/s/ Robert J. Marshall, Jr.	Chief Financial Officer		
Robert J. Marshall, Jr.	(Principal Financial Officer)	May 12, 2022	
/s/ Andrea Sabens	Chief Accounting Officer		
Andrea Sabens	(Principal Accounting Officer)	May 12, 2022	
/s/ Brian Markison			
Brian Markison	Chairman of the Board of Directors	May 12, 2022	
/s/ Minnie Baylor-Henry			
Minnie Baylor-Henry	Director	May 12, 2022	
/s/ Dr. Gérard Ber			
Dr. Gérard Ber	Director	May 12, 2022	
/s/ Samuel Leno			
Samuel Leno	Director	May 12, 2022	
/s/ Heinz Mäusli			
Heinz Mäusli	Director	May 12, 2022	
/s/ Julie McHugh			
Julie McHugh	Director	May 12, 2022	
/s/ Gary Pruden			
Gary Pruden	Director	May 12, 2022	
/s/ Dr. James Thrall			
Dr. James Thrall	Director	May 12, 2022	



May 12, 2022

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

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

Seaport West 155 Seaport Boulevard Boston, MA 02210-2600

617 832 1000 main 617 832 7000 fax

We are familiar with the Registration Statement on Form S-8 (the "**Registration Statement**") being filed by Lantheus Holdings, Inc., a Delaware corporation (the "**Company**"), with the Securities and Exchange Commission (the "**Commission**") under the Securities Act of 1933, as amended (the "**Securities Act**"), on the date hereof. The Registration Statement relates to the offer and sale by the Company of up to 1,750,000 shares (the "**Shares**") of its common stock, par value \$0.01 per share ("**Common Stock**"), issuable under the Lantheus Holdings, Inc. 2015 Equity Incentive Plan (as amended, the "**2015 Plan**").

In arriving at the opinions expressed below, we have examined and relied upon the Certificate of Incorporation and Bylaws of the Company, each as amended and restated to date, the records of meetings and consents of the Company's Board of Directors, or committees thereof, records of the proceedings of its stockholders, and the 2015 Plan, each as provided to us by the Company, and the Registration Statement.

In addition, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. In our examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to authentic original documents of all documents submitted to us as copies and the due authorization, execution and delivery of all documents by all persons other than the Company, where authorization, execution and delivery are prerequisites to the effectiveness of such documents. We have also made such investigations of law, as we have deemed appropriate as a basis for the opinions expressed below.

We have assumed that the Company will continue to have sufficient authorized, unissued and otherwise unreserved shares of Common Stock available at the time of each issuance of the Shares pursuant to the 2015 Plan. We have also assumed that the purchase price or other consideration to be received by the Company for the Shares will be valid consideration equal to or in excess of the par value thereof.

In rendering the opinion expressed below, we express no opinion other than as to the Delaware General Corporation Law.

On the basis of the foregoing, it is our opinion that the Shares, when issued and delivered in accordance with the terms of the 2015 Plan and the awards thereunder against the Company's receipt of the purchase price or other consideration therefor, will be validly issued, fully paid and non-assessable.

This opinion is to be used only in connection with the offer and sale of the Shares while the Registration Statement is in effect.

This opinion is being delivered solely for the benefit of the Company and such other persons as are entitled to rely upon it pursuant to the applicable provisions of the Securities Act. This opinion may not be used, quoted, relied upon or referred to for any other purpose, nor may it be used, quoted, relied upon or referred to by any other person, for any purpose, without our prior written consent.

This opinion is based upon currently existing statutes, rules and regulations and judicial decisions and is rendered as of the date hereof, and we disclaim and obligation to advise you of any change in any of the foregoing sources of law or subsequent developments in law or changes in facts or circumstances which might affect any matters or opinions set forth herein.

We consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

This opinion letter shall be interpreted in accordance with the Core Opinion Principles jointly issued by the Committee on Legal Opinions of the American Bar Association's Business Law Section and the Working Group on Legal Opinions Foundation as published in 74 Business Lawyer 815 (2019).

Very truly yours,

FOLEY HOAG LLP

By: <u>/s/ Stacie S. Aarestad</u> a Partner

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our reports dated February 24, 2022, relating to the financial statements of Lantheus Holdings, Inc. and the effectiveness of Lantheus Holdings, Inc.'s internal control over financial reporting, appearing in the Annual Report on Form 10-K of Lantheus Holdings, Inc. for the year ended December 31, 2021.

/s/ Deloitte & Touche LLP

Boston, Massachusetts May 12, 2022

Calculation Of Filing Fee Tables

Form S-8 (Form Type)

Lantheus Holdings, Inc. (Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered(1)	Proposed Maximum Offering Price Per Share	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common stock, \$0.01 par value per share	Rule 457(c) and Rule 457(h)	1,750,000(2)	\$59.30(3)	\$103,775,000	\$0.0000927	\$9,619.95
Total Offering Amounts					\$103,775,000		\$9,619.95
Total Fee Offsets						—	
Net Fee Due							\$9,619.95

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement on Form S-8 (the "Registration Statement") shall also cover any additional shares of the Registrant's common stock, \$0.01 par value per share (the "Common Stock") that becomes issuable under the Lantheus Holdings, Inc. 2015 Equity Incentive Plan (as amended, the "Plan") by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration that increases the number of the Registrant's outstanding shares of Common Stock.
- (2) This Registration Statement covers 1,750,000 shares of the Registrant's Common Stock, which are issuable pursuant to the Plan.
- (3) Estimated in accordance with Rule 457(c) and (h) under the Securities Act solely for the purpose of calculating the registration fee on the basis of \$59.30, the average of the high and low prices of the Registrant's common stock as reported on The Nasdaq Global Market on May 9, 2022, which date is within five business days prior to the filing of this registration statement.